

The American Perfumer

and Essential Oil Review

DEC. 1911

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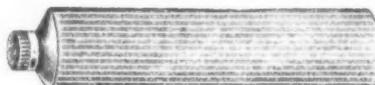
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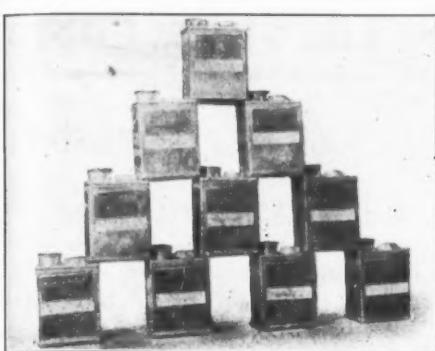
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BEST WISHES FOR THE NEW YEAR.

As this issue of **THE AMERICAN PERFUMER** goes to our readers the holiday trade is in full swing, and the retail demand for products in which we all are interested is reported in many sections of the country to be better than it has been for the last five years, conditions recalling the interruption of the wave of prosperity which gave business such an unfortunate setback three years ago and from which the recovery has been slow, although gradual and healthy. While our readers are not engaged in retail trade, the final demand for perfumery, soaps and toilet articles is naturally the basis upon which they must figure the sale status of the primary materials which they handle. A wide view of the field shows that the revival of retail demand will make the primary trade of 1912 much greater than that of the year just ending, while optimists seem to have justification for the expectation that the new year will be a banner one for business throughout the country.

With this cheerful outlook we extend to our advertisers and readers the congratulations of the holiday season and bid them all our best wishes for 1912, so that their turkeys a year hence, physical as well as financial, may be bigger, fatter and better than ever before!

PERFUMERY TRADE STATISTICS.

Elsewhere in this issue we print some interesting statistics showing the growth of the foreign trade in perfumeries and cosmetics, indicating its range and distribution. In 1911 the imports, largely from France, amounted to \$1,500,000, while the exports were \$1,000,000, with Canada as our best customer, for \$203,648, France taking only \$42,412. Our export trade has a good start, and American manufacturers can well afford to give their attention to this field.

Inclusion in the Census report of perfumeries, cos-

metics, hair tonics, etc., under the heading of "Patent Medicines and Compounds," in the preliminary report issued by Director Durand, is very unsatisfactory, but when we consider that this division, in the figures printed on another page, does not include proprietary preparations and pharmaceutical preparations manufactured in chemical establishments, it may be taken for granted that a large percentage of the figures shown have to do with perfumeries, cosmetics, etc. This industry is growing to large proportions. Bulletin 84, giving figures for away back in 1904, *seven years ago*, show the output to have been more than \$11,000,000, so that in the present year of 1911 it must amount to a sum that would warrant separate and special attention. No doubt in taking the next census this subject will receive proper consideration.

JUST WHAT IS BEING DONE.

Everybody interested in questions which arise under the operation of the Pure Food and Drugs Law, both in this country and abroad, will read with informative purpose the report of this subject which was made to Congress this month by James Wilson, Secretary of Agriculture, in whose department the Bureau of Chemistry and the chief machinery for the enforcement of this law are located. Mr. Wilson tells of a great deal of work and gives facts and figures regarding what has been accomplished, the fines collected and other statistics, but, to some of our readers he gives more important information. His report shows the trend of judicial interpretation of the Pure Food and Drugs Act, besides indicating the probabilities of future action by the President. The report will give our European readers an official insight into what we are doing in America in the fight for honesty in business within certain lines, in which Britain, France, Germany and Switzerland are enlisted. Drawing the line between dry facts and information that is worth while we do not think any of our readers can afford to pass by Mr. Wilson's report, which is printed on page 229.

In this connection it is worthy of note that Secretary Wilson has approved a tentative plan by which hearings will be given to persons accused of violating the purity law after judgment by the board and before final approval of the decisions of the Pure Food Board and consequent publication. This really amounts to a second hearing in cases where adverse action is taken, a concession which will be appreciated by those who may technically offend against the law, but it would seem to us that the trouble in many cases might be avoided by putting in a full defense at the first hearing which is held by the board before any action is taken. The necessity for this second hearing probably exists in a very small percentage of cases and as it amounts

to giving the accused a second chance for defense the secretary must be commended for going to the extreme in this direction in fairness in enforcing the law.

THE STATUS OF OTTO OF ROSE.

The British Consul at Sofia, Bulgaria, has made, in part, the following report which has had wide publicity:

The yield of attar of roses for the Bulgarian district known as the Valley of the Roses, where some 7,000 acres are under cultivation, amounted in 1910 to 5,500 pounds, valued at \$720,242, an average of \$130 per pound, as against 11,000 pounds, valued at \$895,436, an average of \$81 per pound, in 1909. The 1911 crop has suffered from frost, and the price of the petals rose from $1\frac{1}{2}$ to 4 cents per pound. Owing to the deficiency in the last crops and to the great demand, adulteration has reached such a pitch that the local authorities, who declare themselves unable to stem the bringing into the district of the oil of geranium, sold in the market at \$2.50 per pound, propose to withdraw the prohibition against its introduction, so that the mixture may become a recognized article of trade and buyers take their precautions accordingly.

The situation should be as it is in Cuba regarding tobacco, for there the importation of any kind of tobacco is effectively prohibited. Thus it has come to pass that Cuban made cigars have always been regarded as "clear Havana."

It is hardly conceivable that any considerable illicit importations could secretly be made into Bulgaria of oil of geranium or of geraniol or other essential oil derivative that might be used in the adulteration of otto of rose, so one is strongly led to the conclusion that Bulgarian customs officials do not wholly disapprove of the traffic. Is it not a rather melancholy reflection to think that there is not sufficient official virtue in the country to make the enforcement of a self-protecting law possible?

WILEY AT THE DULUTH CONVENTION.

There has been considerable discussion since the recent convention held in Duluth regarding the attitude of the Association of State and National Food and Dairy Departments towards benzoate of soda and Dr. Wiley. Unlike the previous convention at Denver, these subjects were not much in evidence at Duluth. Twenty of the thirty-four delegates signed and sent to President Taft an open letter by night telegram commending Dr. Wiley.

Aside from this the fight centered on the election of officers, as to whether the candidates were for or against Dr. Wiley. The convention elected as its president Lucius P. Brown, of Tennessee, a friend of Dr. Wiley and a firm advocate of pure foods. Mr. Brown won over Dr. W. P. Cutler, of Missouri, by the narrow margin of fifty-two and one-half to forty-nine and one-

half. The rest of the Wiley slate, with the exception of Mr. Fitz-Randolph, of New Jersey, who lost to C. J. Billingsby, of Alabama, for the second vice-presidency, went through by similar narrow margins. Joel G. Winkler, third vice-president, and James Foust, of Pennsylvania, treasurer, received unanimous ballots. Mr. Foust was prominent among the Wilson workers. Commissioner Edwin De Barr, of Oklahoma, who received first place on the executive committee, is thought to have voted with Secretary Wilson a year ago, but has not been active in the controversy. The next session will be held in Seattle.

ALL ALCOHOL PRODUCERS MUST PAY.

Some space is given on the following page to the decision of the United States Circuit Court of Appeals, Third District, in which the court sustains the contention of the government that any recovery of alcohol in the processes of manufacture of articles that are not medicines constitutes a rectifying of spirits and shall be subject to the United States tax of \$200. This decision disposes of the contention of the vanilla extract people, who have maintained that the inconsiderable quantities of alcohol which they have recovered from cuts ought not to be construed as rectifying; a position which we believe they were well justified in maintaining. The court, however, has decided otherwise and that seems to settle the question.

In the syllabus it is to be noted that the word "rectifier" is to receive its legal "and not necessarily its etymological definition." Even apothecaries, under the decision, may not be exempt if they recover "spirits from the dregs of the vanilla bean or ginger root," for the court holds that this is not their business and therefore the exempting clause of the Revised Statutes does not apply to them in this connection. In fact, there does not appear to be a loop hole left in the case whereby the extract manufacturers may take any comfort.

THE LEGAL USE OF PHOTOGRAPHS.

Business men having occasion to use pictures of persons in advertising their goods are becoming well aware of the danger of using photographs of men and women without the authorization of the subjects, but until now the question of the harmless use of the face of a boy has not entered into the calculations of those interested in this branch of publicity. The right of privacy for men and women of mature years, and for girls just budding into womanhood, has its advocates and opponents, with the courts generally favoring the affirmative possession of this right. A Missouri court is the tribunal which now adds boys to the list of those whose consent must be obtained, and a Kansas City jeweler

has been assessed \$350 for publishing the lad's picture in an advertisement without first obtaining his consent. A lower court decided that the boy had no cause of action, but the appellate court reversed the ruling, sent the case back for trial and the damages were awarded.

The verdict of \$350 damages seems like a rather stiff punishment for printing the boy's picture, coupled with the following text, quoting him as saying: "Papa is going to buy mamma a watch for Christmas, and somebody (I won't say who) is going to buy sister a diamond. What are *you* going to buy for me?"

WHY STICK TO BENZOATE OF SODA?

Somehow the benzoate of soda controversy refuses to subside. Our esteemed contemporary, the *Journal of the American Medical Association*, quotes with approval the recent report of the Scientific Deputation for Medical Affairs in Germany, which sustains the stand of the doctors of this country against the use of benzoate of soda as a preservative.

While the use of this preservative in extremely small quantities probably is not harmful, it is difficult to convince the great mass of the people to that effect, and ultimately it will be banned everywhere. If we were in the benzoate business instead of trying to persuade the people against their set convictions, we would be busy contriving methods of getting along without the use of the objectionable article. It would be very much more profitable in the end.

"When a man spends fifty dollars in advertising and loses he blames the publishers. When he spends a hundred and wins he generally keeps both the profit and credit."—*Confectioners' Journal*. But they do not lose when they advertise in THE AMERICAN PERFUMER, and many of our advertisers in their wisdom enlarge their space and take both greater profits and additional credit, thereby showing in the most effective manner their appreciation of the service which they receive through our pages. Our advertisers do not hesitate to give this journal credit, as the many very fine letters we have on file show.

President Taft's annual message to Congress this month dealt only with the Sherman Anti-Trust Law, which he considers adequate for its purpose. In an authorized interview in the *Outlook*, of which ex-President Roosevelt is contributing editor, President Taft declared that he was going to give the House Democrats a chance to show their sincerity on tariff reduction by giving them an opportunity to vote on it. So we may expect more messages from the President. His revision programme calls for wool first.

American Chemical Society's forty-fifth meeting will be held in Washington, D. C., December 27 to 30. The final programme goes to press on December 10. In the preliminary programme there were no papers scheduled of special interest to perfumers and soap manufacturers.

MUST PAY RECTIFIER'S TAX.

Treasury decision 1732 gives the opinion of the United States Circuit Court of Appeals, Third District, affirming the decision of the lower court in the suits of Henry K. Wampole & Co., Smith, Kline & French Co., and others in the matter of compelling manufacturers of vanilla and ginger extracts to take out \$200 licenses as rectifiers for the recovery of alcohol from beans and roots. The syllabus shows the scope of the decision:

1. Liability as Rectifier.—Every person who recovers spirits used in the manufacture of articles not medicines is to be regarded as engaged in the business of rectifying and liable to special tax as rectifier.

2. Definition of Rectifier.—The word "rectifier" is to receive its legal and not necessarily its etymological meaning.

3. Exemption Does Not Apply.—The exempting clause of section 3246, Revised Statutes, providing that no compounder who is an apothecary shall be liable for special tax as to spirits used exclusively in the preparation of medicines does not apply.

4. Business Not That of Apothecary.—The recovery of spirits from the dregs of the vanilla bean or ginger root is not the business of an apothecary.

Judge Lanning, who wrote the decision, says:

"The records disclose these facts. Alcohol on which the internal revenue tax has been paid is mixed with a mass of ground or comminuted vanilla beans or ginger root in a percolator. The alcohol acting as a menstruum "dissolves out" the extract of vanilla or the essence of ginger, and the extract or essence is then drawn off. As a part of the alcohol still remains in the percolator mixed with the vanilla beans or ginger root, the mixture is put into a still, steam is injected into it, and the vaporized alcohol passes with the steam into the condenser and is thereby recovered, but in an impure state, as it is mixed with water and coloring matter and has the odor of the bean or root from which it has been separated. The question we have to decide is whether these facts constitute the defendants rectifiers of distilled spirits within the meaning of the law quoted above.

"It must be conceded, we think, that the defendants are not distillers within the meaning of the law. There was no suggestion by any of the counsel that they are. But as the facts show that the defendants do recover, by the process of distillation, a part of the alcohol once used by them, it is well to have before us, in considering the subject of rectification, which is also effected by distillation, the statutory definition of a distiller, given in section 3247 of the Revised Statutes.

"Every person who produces distilled spirits, or who brews or makes mash, wort or wash fit for distillation or for the production of spirits, or who, by any process of evaporation, separates alcoholic spirit from any fermented substance, or who, making or keeping mash, wort or wash, has also in his possession or use a still, shall be regarded as a distiller."

"The defendants do not produce the spirits; they simply recover them. They do not brew or make mash, wort or wash fit for distillation or for the production of spirits; they make a mash fit for the production of vanilla or ginger extract. They do not, by any process of evaporation, separate alcoholic spirit from any fermented substance; they separate it from an unfermented substance, or at least it is not necessarily from a fermented substance. And though each of them makes a mash and uses a still, the mash, wort or wash referred to in section 3247 is such as will produce spirits on distillation; it does not include a mash composed of ground vanilla beans or ginger root and alcohol mixed together and which on distillation simply gives up part of the alcohol previously put into the mixture. (See *United States v. Frerichs*, Fed. Cas. No. 151666; *One Vaporizer*, Fed. Cas. No. 10537.)

"In *United States v. Marshall* (Fed. Cas. No. 15726) Judge Swing had occasion to distinguish between a distiller and a rectifier. The defendant was indicted for carrying on the business of a distiller without giving bond as re-

quired by law. He pleaded that his business was that of a rectifier and not a distiller. Judge Swing said:

"He [the defendant] had, however, the right to use high wines and cologne spirits, and he had a right to recover from any substance, no matter what, any spirits which existed in that substance upon which tax had been paid. He had a right to take the charcoal used by rectifiers and recover by any process all the spirits which were in it. He had a right to take elderberries, peaches, prunes, every article of that kind that contained spirits by reason of their former use by rectifiers, not out of which spirits might have been manufactured, but that contained these spirits in a spirit form. He had a right to recover or separate it from the substance it had gone into and get it back free from any substance with which it was connected; but he had no right to create spirits—that is, he had no right to take prunes and peaches and elderberries or beer or any other fermented substances and make spirits out of them. He had no right to put it through such a process as would convert the elements which existed in these several articles and out of which, by a process of distillation, he could create spirits. He had a right to take all the saloon washings he could find in the city of Cincinnati, if they contained no fermented liquors or substances, recover from these all the spirits that existed in them, separating it from the water or other substances with which it might be held in solution."

"Although these expressions were mere dicta in so far as they supported the claim of the defendant that he was a rectifier, the only question being whether he was a distiller, we quote them because we think the things which Judge Swing declared the defendant in that case might lawfully do are things belonging to the business of rectification. The word 'rectifiers' is to receive its legal and not, necessarily, its etymological meaning. Rectification of distilled spirits, in the legal sense, means any process, exclusive of 'original and continuous distillation from mash, wort or wash, through continuous closed vessels and pipes, until the manufacture thereof is complete,' by which the spirits are separated from the substance with which it is mixed or combined. The rectifier may take the raw spirits of the distiller, and, by repeated processes of distillation, separate the spirit from the oils and impurities left in it by the distiller; or he may take the refuse material of the manufacturer of ginger or vanilla extract, saturated with alcohol, and by distillation separate the spirits from that material. The latter process is that of the defendant in these three cases. To hold it to be rectification within the meaning of the law is in harmony with the views of Judge Swing, above quoted, which were expressed as early as 1876, as well as with the views expressed in a train of decisions of the Treasury Department from 1900 down to the present time.

"But it is contended by the defendants that though they be rectifiers within the meaning of the third subdivision of section 3244, they are exempted from the special tax imposed by that section by the provision of section 3246, that no special tax shall be imposed 'upon apothecaries as to wines or spirituous liquors which they use exclusively in the preparation or making up of medicines.' The exemption does not embrace one who recovers alcohol from a substance with which it has been previously mixed. Such a person is not one of the 'apothecaries' referred to in the exempting clause. The third subdivision of section 3244 applies, *inter alia*, to certain compounders of spirits with other materials, and declares that they shall be regarded as rectifiers, but the exempting clause of section 3246, in effect, provides that no compounder who is an apothecary shall be liable for the special tax as to any spirits which he uses exclusively in the preparation of medicines. The recovery of spirits from the dregs of the vanilla bean or ginger root is not the business of an apothecary; the use of spirits in compounding medicines is. The exempting clause relates to the latter and not the former business.

"After careful consideration we have reached a conclusion in substantial accord with that of Judge Holland in *United States v. Twitchell*, *United States v. Hance*, and *United States v. Smith, Kline & French Co.* (184 Fed. pp. 525-534.) The judgments of the district court are therefore affirmed with costs."

THE TESTING OF CITRONELLA OIL

By ERNEST J. PARRY, B. Sc., F. I. C., Barrister-at-Law.

No question in the essential oil trade has aroused more controversy in some time than that of tests for citronella oil. Mr. E. J. Parry contributes herewith a paper on this topic in which he discusses the tests proposed by Schimmel & Company and expresses his views upon the position taken by Dr. C. Kleber in a recent contribution to this journal. With the purpose of presenting both sides at this stage of the controversy we have obtained from Dr. Kleber his reply to Mr. Parry's comments, so that below we present to our readers the last word at present upon the subject of testing citronella oil:

The recent criticisms of Dr. Kleber (this journal, 6, 1911, 86) on the testing of citronella oil are of sufficient importance and interest to invite a reply from one who is much interested and engaged in the examination of the oil.

But before dealing with Dr. Kleber's remarks it may be well to very briefly review the actual position of citronella oil testing. This oil was formerly very grossly adulterated, and the credit for having at least put a limit to the adulteration is rightly claimed by Messrs. Schimmel & Co. This well-known firm introduced what is now generally known as "Schimmel's test," which was a test depending on the solubility of the oil in 80 per cent. alcohol.

The exact conditions of this test appear to have slightly changed from time to time, and in actual practice the wording of the test has been somewhat obscure and dubious. This is by no means due to Messrs. Schimmel & Co., but to the merchants who, without scientific advice, chose to frame the test in such dubious words, and inserting the same on the face of the contract. Matters came to a climax when certain parcels arrived in London which were so closely on the border line that it was difficult to decide whether or not they actually passed the test. These were submitted to the writer and to Mr. J. C. Umney and we agreed that they just failed to pass Schimmel's test. In this claim, I believe, Messrs. Schimmel & Co. agreed. The buyer claimed and received allowance of from 2d. to 3d. per lb. on the ground that the oil would have to be re-distilled in order to make it pass Schimmel's test. It was pointed out that whilst normal oils arriving contained 57 to 58 per cent. of geraniol, etc., the oils in question contained 55 to 56 per cent., so that with Schimmel's test as a basis for commercial contracts, an allowance of 2d. to 3d. per lb. was made on an oil worth 1s. 2d. per lb., when the deficiency in odorous constituents was only 2 per cent. out of 57 to 58 per cent.

The adoption of the determination of the acetylisable constituents as a basis for commercial contracts had long been advocated by the writer and by J. C. Umney, and the events just mentioned led to its serious consideration by importers in England, and by users, also. The result is today a large number of the principal persons concerned have actually adopted this standard. The writer had hoped that Messrs. Schimmel & Co.

would have supported this new basis for the commerce of this oil, as they have always supported all scientific advance in the commercial aspect of essential oils. This, however, for reasons which are no doubt good ones, they do not appear to do, and this being the case they support what they are pleased to call the "searching criticism" of Dr. Kleber. (Schimmel's report, October, 1911.) Now all that appears in this valuable publication carries—and rightly carries—very great weight, and I am sure that both Dr. Kleber and Messrs. Schimmel & Co. will not regard any criticism of their views in any unfriendly manner.

The first part to which I would draw attention is that both Kleber and Messrs. Schimmel & Co. appear to consider that no water is formed in the reaction taking place when geraniol is acetylated. But in this view they clearly rely on the reaction being merely that between one molecule of geraniol and one of acetic anhydride, resulting in the formation of one molecule of geranyl acetate and one of acetic acid. I suggest that they have overlooked the fact that 100 per cent. acetic acid is not far less powerful in its action on alcohol than acetic anhydride. Thus, with acetic anhydride, one obtains a result of, say, 94 per cent. santalol in santal wood oil, whilst with the use of acetic acid 88 to 90 per cent. will be indicated. It is, therefore, clear that directly the acetic acid is formed in the acetylation process it begins to react with the geraniol and in the consequent reaction water is eliminated, and I still maintain that the action of sodium acetate is not catalytic, but is actually that of absorbing water. Now, Kleber also takes exception to the use of the words "dry sodium acetate" in the description of the acetylation process. I would point out that this is strictly correct; sodium carbonate contains a large amount of water of crystallization; dry sodium carbonate means sodium carbonate free from water of crystallization; in the same way dry sodium acetate means sodium acetate free from water of crystallization. It is really splitting hairs to make this criticism. I will, in spite of Messrs. Schimmel & Co. having more or less adopted Kleber's criticism without question, invoke them to support me.

On page 263 of "Die Aetherischen Oele" (1889), they recommend for the use in the acetylation process "1 to 2 gr. trocknem Natrium-acetat"—which in the authorized English edition is rendered "1 to 2 gr. of dry sodium acetate." In the second edition of this splendid work the words are, again, "ca. 29. trocknem Natrium-acetat."

Dr. Kleber goes on to state that it is impracticable to wash out the acetylated oil with water, because too many washings would be required to remove the acid completely. He advocates using a solution of carbonate of Sodium 10 per cent. Personally I always wash the acetylated oil with water brine preferably, in order to save time, and finish with a 2 per cent. solution of sodium bi-carbonate. I will not discuss whether there in any chance of a 10 per cent. solution of carbonate of sodium decomposing esters, but as Messrs. Schimmel

& Co. have adopted this criticism of Kleber, and also that "warming on the water bath also is not only superfluous but positively objectionable," I consider it of interest to reproduce textually the description of the acetylation process laid down in the 1910 edition of *Die Aetherischen Oele*, edited by Dr. Gildemeister and published by Messrs. Schimmel & Co. It is as follows:

"Zur Acetylierung werden 10 ccm des Oeles mit dem gleichen Volumen Essigsäureanhydrid unter Zusatz von ca. 2 gr. trocknem Natriumacetat und einigen Siedesteinchen in einem mit eingeschliffenem Kühlrohr versehenen Kölbchen eine Stunde auf dem Sandbade im gleichmässigen Sieden erhalten. Nach dem Erkalten setzt man zu dem Kolben-Inhalt etwas Wasser und erwärmt unter mehrmaligem Umschütteln ½ Stunde auf dem Wasserbade, um das überschüssige Essigsäureanhydrid zu zersetzen, scheidet darauf das Oel im Scheidetrichter ab und wäscht so lange mit Wasser oder besser Kochsalzlösung aus, bis die Reaktion neutral ist." (pp. 594-595.)

The use of alkali to complete the washing is disapproved of, in term, in a footnote to the above quotation, which reads as follows:

"Man kann auch so verfahren, dass man die freie Säure vorher mit Sodalösung abstumpft und hierauf bis zur neutralen Reaktion auswäsch. Hierbei wirkt aber störend, dass sich die Sodalösung bisweilen schlecht von dem Oele trennt, sodass der oben angegebene Weg vorzuziehen ist."

With the statement that half an hour is not sufficient to saponify the esters formed I am not altogether inclined to agree. I do agree that saponification for an hour gives slightly higher results, but this may possibly be due to the fact that there is an action other than the saponification of the esters going on. Indeed, I think the evidence points to this being the case, for with the present specimens of geranyl acetate I have been able to obtain, saponification is completed easily in half an hour.

The statement that the practised sophisticator will find ways and means of imparting to the oil the required acetylation value cannot be accepted very seriously. I challenge Dr. Kleber to even indicate an acetylizable body which can be added in paying quantity to citronella oil worth 25 cents per lb., which will not totally disturb the other physical characters of the oil.

I submit that Dr. Kleber's criticisms are unjustifiable and shall be glad to see what view your readers take of the matter.

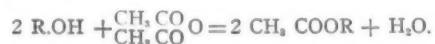
SOMETHING FURTHER ON CITRONELLA STANDARDS.

By DR. C. KLEBER, of Clifton, N. J.

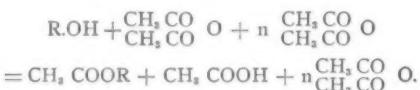
In my previous paper I had pointed out some erroneous ideas about the acetylation of citronella oil and made some suggestions for modifying the proposed standard formula. As the matter seemed plain enough, I had hardly expected that I would be further called upon to defend my standpoint, but I am nevertheless compelled to reply now at least to some points raised by my anticritics, if only to avoid the "qui tacet, consentit," deferring a more complete treatment of the subject to the near future, when I hope that my time will be taken up less by other matters. I had described in my paper the process which in very numerous

analyses had been found to be convenient, expedient and accurate, but I did not mean to say that correct results were not obtainable by more or less modifying the details. If for instance somebody finds consolation in removing the acetic acid by half a dozen or more washings with water and subsequent neutralization of the weighed oil just before the addition of the alcoholic soda, he has my sincerest blessing, but I prefer to do the work in a fraction of the time with soda solution.

Neither Mr. Umney nor Mr. Parry is satisfied with my interpretation of the acetylizing process and they refer to the formula:



This is certainly a good honest equation, only, it does not represent the process in the acetylation flask. Taking the weight of 10 Cc. of Citronella oil as 9 grams and assuming therein the high percentage of 80 per cent. of geraniol, we would have present 7.2 grams of geraniol, corresponding according to the above formula to about 2.4 grams of acetic anhydride. Instead of this quantity we use according to the various formulas suggested, 10 to 20 Cc. of anhydride, and this large excess is absolutely necessary for producing a quantitative reaction. The correct equation would therefore be:



It is well known that the esterification of alcohols with acid anhydrides is infinitely more rapid than with acids and will therefore be the exclusive one in presence of an excess of anhydride. Even assuming that water could intermediately be formed, from a reaction between alcohol and the generated acid, this water would at once combine with the acetic anhydride which at elevated temperature reacts against water with explosive vehemence. No water can therefore be present at any stage of the process and consequently none can be taken up by the sodium acetate.

Furthermore, does neither Mr. Umney nor Mr. Parry know that hydrated sodium acetate gives off all its water at temperatures even considerably below 100 dec. C. How, then, can even the anhydrous salt take up any at temperatures of about 120 to 140 deg., as they are prevailing in the acetylation flask—and that in the presence of agents with such avidity for water as glacial acetic acid and anhydride? If they know this, why should they persist so tenaciously in their preoccupied idea, instead of admitting a simple error? And if they don't they might make themselves acquainted with the fact from any text book on the subject.

My remark about "anhydrous" instead of "dry" sodium acetate was only a casual one for which I had a good reason. If, as Mr. Umney claims, there could be no possible misunderstanding about this matter in England, I apologize to all English readers, but here in America the remark seemed to me not quite amiss, as analysts sometimes do queer things, and it is better rather to be a little too explicit in the description of analytical processes, especially if "trained pharmacists" are to be entrusted with them, as my English critics

advocate. For how can "trained pharmacists" be expected to fully understand the mechanism of this reaction, if it is not even understood by "trained chemists?"

I have regarding this matter about which my files already contain considerable correspondence, specially in mind the case of a young man who on the basis of a chemical course in a business college was striving honestly to supply his firm with analytical work on essential oils. It occurred in a number of cases that he persistently found lower alcohol figures than myself to whom the same samples had been entrusted by opposing parties. When I finally visited his laboratory, to elucidate the matter, he showed me his stock of sodium acetate, of which he said he always used a goodly quantity, to be sure that it would kindly take care of all the water being present or to be formed, as he labored under the same misconception regarding the water absorbing qualities of this salt. The stuff looked beautifully dry, but when heated in a test tube, it fairly melted in the water given off. He said that he bought it as "dry sodium acetate" from a drug firm and would now refuse it as "no good," but I advised him rather to re-fuse it and to remember in future that anhydrous sodium acetate is a good absorber for water in a loosely stoppered bottle, but not in an acetylation mixture. This he did, whereafter our mutual results were in lovely harmony.

The other points raised by Mr. Parry hardly require any further comment. What does it mean, for instance,

if on my objection against warming the neutral acetylated oil on a waterbath with sodium bisulphite, he quotes as a contrary authority Gildemeister, who says that the oil-anhydride-water mixture should be warmed on a water-bath, to decompose the excess of anhydride?

The glaring incongruity of the two different subjects put here in parallel could only escape a very careless reader. Mr. Parry further states that geranyl acetate is completely saponified in one-half hour. Quite true, but there is also iso-pulegyl acetate present in the citronella assay, an ester which is not completely saponified even by one hour's boiling. (Schimmel's Bericht, April, 1911, page 157.) It would not seem justifiable that Mr. Parry simply discards the extensive researches of Schimmel & Company on the subject.

Mr. Parry finally says that my "statement that the practised sophisticator will find ways and means of imparting to the oil the required acetylation value cannot be accepted very seriously," and he challenges me to even *indicate* a substance suitable for this purpose. I will do better and furnish him, as soon as my time permits, from my records with a little list of adulterants which were actually found in citronella oils of normal physical characteristics and showing a splendid geraniol percentage after the standard process, which will demonstrate how alert adulterators are already now utilizing the geraniol determination in citronelli oils to make a fine show with their spurious products. But this is another story, as Kipling says.

OPERATIONS OF THE FOOD AND DRUGS LAW*

By James Wilson, U. S. Secretary of Agriculture.

The food and drugs act has been effectively enforced during the year by the department and the United States attorneys. Cordial co-operation has existed between this department and the Department of Justice. The prime object of the food and drugs act was declared in the report (No. 1780, 61st Cong., 1st sess.) of the House Committee on Expenditures in the Department of Agriculture to be the securing of wholesome food and properly labeled drugs for the people at large.

No leniency has been shown in any case based on foods alleged by the Bureau of Chemistry to contain added poisonous or deleterious ingredients which might render them injurious to health. Eight hundred and twenty-five cases were reported for criminal prosecution, and 337 seizures of adulterated and misbranded foods and drugs were recommended; making 1,162 cases or 40 per cent. of the whole number of cases reported since the act went into effect on January 1, 1907.

There were 683 cases prosecuted by the United States attorneys, or about 50 per cent. of all the cases brought to judgment up to June 30, 1911. About \$16,000 was the amount of the fines imposed, and costs were generally assessed against the defendants. Decrees of condemnation and forfeiture were entered against more than 275 shipments of adulterated and misbranded foods and drugs, and it was insisted that

in every case where foods were found to consist of filthy, decomposed or putrid substances or to contain poisonous or deleterious ingredients orders be entered directing the destruction of the goods.

Co-operation with the department by some of the State food and drug officials has continued throughout the year, and cases based upon samples collected and examined by the collaborating officials have been reported to the Attorney General after being considered by the department when the results of the investigations have warranted such action.

Two important cases under the food and drugs act were decided by the Supreme Court during the year. The first was *Hipolite Egg Company v. United States*. The case grew out of the seizure of fifty cans of preserved eggs under section 10 of the act in the southern district of Illinois. A decree of condemnation and forfeiture, with costs, was entered by the trial court, and the Hipolite Egg Company appealed, asserting that the court was without jurisdiction because the eggs had not been shipped for sale within the meaning of the food and drugs act, and, further, that the court was without jurisdiction to assess the costs of the proceedings against the claimant. The decree below was affirmed, and the Supreme Court held that adulterated articles of food which have been transported in interstate commerce are subject to seizure and condemnation as long as they remain in the condition in which they were transported—that is,

*From his annual report presented to Congress, December 7, 1911.

"in the original unbroken packages." The jurisdiction of the district court to assess costs was also upheld.

In *United States v. Johnson* the decision was adverse to the Government. In this case misbranding was alleged of a so-called "mild combination treatment for cancer," consisting of several packages bearing statements that the treatment would effect the cure of cancer. The indictment alleged that these representations were false and misleading statements regarding the article and that the drug was misbranded, because analysis showed the treatment to be worthless and ineffective for the pretended purpose. On defendant's motion to quash, the district court for the western district of Missouri held that inquiry under the food and drugs act does not extend to the question whether a product is effective or worthless to accomplish the results claimed for it on the label. The judgment of the district court was affirmed by the Supreme Court. Following this decision the President sent a message to Congress urging the immediate necessity for remedial legislation.

INSPECTION OF FOODS AND DRUGS.

The inspection force of the Bureau of Chemistry collected 9,500 official samples of foods and drugs during the fiscal year, and 2,000 additional samples for use in scientific investigations relating to the enforcement of the food law, providing data on which 312 seizures were based. Each of these samples was referred to the appropriate laboratory at Washington or to one of the 21 branch inspection laboratories, the reports from the latter points showing that 3,280 interstate samples were found to be legal and 3,113 misbranded or adulterated, while 503 check analyses were made to insure that correct results were obtained before recommending action on the samples.

In connection with this work 5,370 hearings were held, less than half being by correspondence. There were 96,129 floor inspections made of imported products, of which over half were made at New York. A total of 9,698 imported foods and drugs were analyzed at these ports, of which number 3,085 were adjudged adulterated or misbranded, and 1,268 were released without prejudice to future shipments. The miscellaneous samples examined at the branches aggregated 1,406, making a total of 18,000 samples.

In this connection there must be considered the analyses made at the Washington food and drug inspection laboratories and at the special laboratories handling specific classes of materials, such as the dairy products, waters, cattle foods, flavoring extracts and essential oils. Here check analyses are made and all cases prepared for the consideration of the Solicitor, in addition to the original analyses made for inspection or investigation work. Approximately 752 samples are reported by the drug-inspection laboratories, of which 529 were domestic products; 231 of these were found to be adulterated or misbranded. The Food Inspection Laboratory proper reports 2,067 domestic samples and 1,097 imported foods, largely check samples on branch laboratory reports; in this laboratory 2,142 cases were prepared for consideration. In addition the Food Technology Laboratory reports 108 initial and check samples and 185 cases prepared on extracts and essential oils; the Dairy Laboratory reports 320 official interstate and import samples and

the preparation of 347 cases; the Water Laboratory 200 samples, only 39 being of foreign origin, of which 11 were misbranded, while 39 of the 161 interstate samples were considered illegal and 6 seizures were made; of the 500 interstate samples of cattle and poultry foods 76 were found to be adulterated or misbranded. This total of 3,672 domestic and 1,302 import samples at the Washington office gives a general total of 22,974 samples examined in the course of the inspection work alone, including check examinations and other necessary duplications in the work.

DRUG INVESTIGATIONS.

The important co-operation with the Post Office Department in issuing fraud orders against medicinal agents sent through the mails and proved to be of a fraudulent or injurious nature has been continued. As in former years, the consumption, cancer and epilepsy "cures" continue to form the most important classes of materials handled.

PROCESS FOR MEDICINAL SOAPS.

P. A. Newton, of 6 Bream's Buildings, Chancery Lane, London, E. C., declares the invention covered by the British patent No. 19,150 of 1910, and communicated by the Farbenfabriken vormals Friedrich Bayer & Co., Elberfeld, Germany, to be as follows: The chief application, No. 10,075, April 28, 1909, relates to the manufacture and production of new disinfecting soaps. The process for their production consists in mixing soaps with alkaline salts of complex mercury substituted carboxylic acids of the aliphatic or aromatic series. My foreign correspondents have now found that such soaps can be prepared on starting from the free acids. The process for their production consists in mixing soaps with free complex mercury substituted carboxylic acids or their anhydrides. The soaps possess valuable therapeutic properties, and the fact that they are non-irritant and penetrate freely into the depth of the loosened tissue renders them highly valuable as disinfecting and therapeutic agents. By this process exclusively the mono-metallic salts of the acids are formed, which are superior in their disinfecting power to the dialkali salts. It is not necessary that the free carboxylic acids be soluble in water. The slightly alkaline reaction of the soap suffices to form the monoalkali salts.

THE SOYA BEAN OF MANCHURIA. By Norman Shaw. With Map, Diagram and Six Plates. Demy 4to. 3s. net. London: P. S. King & Son.

There is ample scope for the treatise written by Mr. Norman Shaw, of Newchwang, and issued as one of the special series of Imperial Maritime Customs publications. The pamphlet is bound in paper covers and illustrated with photographs of the native method of treatment, and with colored plates of the different varieties of bean; some striking statistics and interesting descriptive matter are also given. The contents are: Varieties, The Plant, Soil and Climate, Cultivation, Soil Infestation, Yield, Uses of the Soya Bean, the Bean Oil and Cake Industry in the United States, Trade Development, Beginnings of the European Trade, Bean Oil and Cake Production in South Manchuria, Chief Sources of Supply and Map References.

PERFUMERIES AND COSMETICS IN THE FOREIGN TRADE OF THE UNITED STATES

Twenty million dollars' worth of perfumeries, cosmetics and other articles of this character were imported into and exported from the United States in the last dozen years, and more than \$2,500,000 worth of it in the single year 1911. This illustrates the great variety of articles now forming the international commerce of the United States and is an explanation of the constant demands made upon the Bureau of Statistics of the Department of Commerce and Labor for greater detail in its statements regarding this growing commerce.

A dozen years ago, in the fiscal year 1900, the total value of articles imported under the general title of "perfumeries, cosmetics and all toilet articles" amounted to only \$500,000, and the exports \$330,000. In 1906 the imports passed the million-dollar line and the exports passed the \$500,000 line. In 1911 the imports exceeded \$1,500,000, and the exports for the first time exceeded \$1,000,000 in value. Taking the twelve fiscal years beginning with 1900 and ending with 1911, the total value of articles imported under this general title amounted to \$12,060,447, and those exported to \$6,733,625.

While the mere item of \$2,500,000 worth of this class of merchandise imported and exported in a single year forms but a very small part of the foreign commerce in that year, the rapid growth indicates the increasing disposition of the citizen of the United States to draw upon all parts of the world for comforts and conveniences and of the citizen of foreign countries to look to the United States for articles of higher grade of manufacture and luxuries.

France supplies by far the largest part of our imports of the class under discussion. Of the \$1,500,000 worth of articles classed as "perfumeries, cosmetics and toilet preparations" imported in the fiscal year 1911, \$1,300,000 worth came from France; Germany and England ranking next as sources of supply, but far below France, the total from Germany being \$58,450, and from England \$82,199. The total number of countries, however, from which merchandise of this character is imported is more than thirty and includes, aside from nearly all the European countries, Japan, China, Turkey in Asia, Cuba, certain other of the West Indies and several of the countries of South America.

The exports under this head are even more widely distributed, the total number of countries and colonies to which articles classed as perfumeries and other toilet preparations are exported being more than eighty, even France, from which we draw such large quantities, buying more or less from the United States. To England we exported of this class of merchandise in the fiscal year 1911 \$174,736 value; to France, \$42,412; and to the other European countries in less sums.

Canada was the largest customer, \$203,648 worth in 1911; England next, \$174,736; Peru, \$48,369; the Philippine Islands, \$40,896; Panama, \$37,410; Australia, \$31,774; Cuba, \$31,624; the British West Indies, \$31,440; China, \$29,292; and Brazil, \$18,887; while considerable

quantities went to Hongkong, the Straits Settlements, Japan, Colombia, Chile, Argentina, Ecuador and Venezuela.

The class of articles grouped under this general title of "perfumeries, cosmetics and all toilet preparations" is chiefly made up of cologne and other toilet waters, cosmetics, powders, theatrical grease paints, pastes, pomades, dentifrices, etc., nearly one-half of the total imports being placed in the tariff group, "containing alcohol, or in the manufacture or preparation of which alcohol is used," and imported at a rate of duty averaging 71.2 per cent. and about an equal value in another group, "not containing alcohol," upon which the average rate of duty is 60 per cent. Bay rum, which is included in this general class, amounts to less than \$1,000 per annum in value of imports, while the two great groups above noted range more than \$500,000 each.

The growing demand for articles of this character is illustrated not only by the growth in imports and exports, but also by the increased domestic production. The census reports show the value of manufactures under the general head of perfumeries and cosmetics in 1880, \$2,225,000; in 1890, \$4,500,000; in 1900, \$7,000,000, and in 1905 \$11,000,000, against a total importation in that year of less than \$1,000,000 value.

CENSUS STATISTICS.

A preliminary statement of the general results of the thirteenth census of establishments engaged in the manufacture of patent medicines and compounds and druggists' preparations has been issued by Director Durand of the Bureau of the Census, Department of Commerce and Labor. It does not separate perfumery, soaps and cosmetics, but the report includes those branches of trade. Separate statistics, Director Durand says, are impracticable on account of the necessity for grouping so many collateral commodities.

These statistics include bitters, tonics, so-called patent medicines and pills, salves, tooth paste and powder, hair tonic and dyes, extracts, tinctures, medicinal plasters and all other kinds of druggists' preparations, as well as perfumery and cosmetics. It does not include the proprietary or pharmaceutical preparations made in chemical establishments. The report was prepared under the direction of William M. Steuart, chief statistician for manufactures, Bureau of the Census, and contains a summary which gives the general figures for 1904 and 1909. The figures are subject to revision.

RATES OF INCREASE.

The general summary shows increases in all the items at the census of 1909, as compared with that of 1904.

There were 3,642 establishments engaged in this industry in 1909 and 2,777 in 1904, an increase of 31 per cent.

The capital invested as reported in 1909 was \$99,942,000, a gain of \$24,335,000, or 32 per cent., over \$75,607,000 in 1904. The average capital per establishment was approximately \$27,000 in 1909 and also in 1904.

The value of products was \$141,942,000 in 1909 and \$117,436,000 in 1904, an increase of \$24,506,000, or 21 per cent. The average per establishment was approximately \$39,000 in 1909 and \$42,000 in 1904.

The cost of materials used was \$50,376,000 in 1909, as against \$39,494,000 in 1904, an increase of \$10,882,000 or 28 per cent.

VALUE ADDED BY MANUFACTURE.

The value added by manufacture was \$91,566,000 in 1909 and \$77,942,000 in 1904, an increase of \$13,624,000, or 17 per cent. This item formed 65 per cent. of the total value of products in 1909 and 66 per cent. in 1904. The value added by manufacture represents the difference between the cost of material used and the value of products after the manufacturing processes have been expended upon them. It is the best measure of the relative importance of industries.

The miscellaneous expenses amounted to \$37,027,000 in 1909 and \$33,567,000 in 1904, an increase of \$3,460,000, or 10 per cent.

The salaries and wages amounted to \$26,904,000 in 1909 and \$17,888,000 in 1904, an increase of \$9,016,000, or 50 per cent.

The number of salaried officials and clerks was 15,404 in 1909, and 9,483 in 1904, an increase of 62 per cent.; their salaries increased from \$9,975,000 in 1904 to \$17,007,000 in 1909, or 70 per cent.

The average number of wage earners employed during the year was 22,895 in 1909, and 20,472 in 1904, an increase of 12 per cent.; their wages increased from \$7,913,000 in 1904, to \$9,897,000 in 1909, or 25 per cent.

The average horsepower per establishment, considering all establishments, was approximately 7 horsepower in 1909 and 6 in 1904.

REPORT OF THE CHEMIST OF THE U. S. DEPT. OF AGRICULTURE FOR 1911

Dr. H. W. Wiley, Chief of the Bureau of Chemistry, makes a very interesting report of the work of his bureau, and the several items of particular note to users of essential oils should be carefully studied. Write to the Department for a copy of the report.

The following topics have been carefully investigated at the Chicago laboratory:

(1) The composition of vanilla extracts prepared in the laboratory according to the United States Pharmacopeia from different kinds, grades, and lengths of beans.

(2) The composition of vanilla extracts prepared in the laboratory from typical kinds of beans following different methods of extraction.

The methods used in these investigations have, for the most part, been devised or developed at this laboratory. A method for certain improvements in the process of determining vanillin, coumarin, and the lead number of extracts were elaborated. More recently special attention has been devoted to the determination of the color value of the lead acetate filtrate of vanilla extract as compared with that of the extract itself to obtain data of service in detecting foreign coloring matter.

At NEW YORK.—The inspection of the essential oils has been extended during the past year to include all of those recognized in the United States Pharmacopeia, the work heretofore having been confined almost entirely to the orange and lemon oils. No particular investigation as to methods have been conducted, but data as to the composition of the oils presented for entry has been secured as a basis for future investigations.

INVESTIGATIONS IN GENERAL.

ESSENTIAL OILS.

During the year 163 samples of essential oils have been submitted to examination in this laboratory; of this number 15 were reported as adulterated or misbranded. A number of unofficial samples of oils have been examined with the object of determining the best methods for their analysis, especially with respect to

the determination of the ketones and aldehydes by the hydroxylamin titration method. A variety of samples have been submitted to this laboratory for check analysis, including both import and interstate samples of essential oils, as well as samples of cod liver oil compounds, spirits of camphor, etc.

A chemical investigation of oil of chenopodium has been carried on, having in view especially the extension of our knowledge of the properties of the peculiar medicinally active ingredient, ascaridol. The results of this investigation, so far as completed, are to be found in Chemistry Circular 73.

THE MANUFACTURE OF CITRUS BY-PRODUCTS.

Owing to the difference in economic conditions the methods employed for the manufacture of citrus by-products in southern Europe are not applicable in the United States. A laboratory study has been made with a view to increasing the use of mechanical devices and otherwise lessening the cost of production, and has reached the stage where it seems advisable to conduct the work on a commercial scale. It is proposed, therefore, at the beginning of the next packing season, to equip a small experimental plant for the study of the economic manufacture from waste citrus fruits of citric acid, citrus oils, juices, and several preserved products.

ESSENTIAL OILS USED FOR FLAVORING FOOD PRODUCTS.

An investigation of citrus-fruit oils extending over several years has been completed during the past year, and a report upon the subject is in preparation. A study was also made of the manufacture, composition, and methods of analysis of the oils of wintergreen and birch and of methyl salicylate. It is important to know the distinguishing characteristics of these products, as the last two are frequently substituted for the wintergreen. Other essential oils, such as oil of sassafras and spearmint oil, were also studied.

EDIBLE OILS.

In collaboration with the Bureau of Plant Industry, progress has been made in the clarification of peanut oil, and a study has been inaugurated of the chemical composition of various soft-shelled pecans and of the oil contained by them, with a view to determining whether the composition would shed any light on the distinguishing features of various varieties.

STANDARDS AND TESTS*

By DR. S. H. BAER

The first question to be considered is, what constitutes flavoring extracts, and I believe that no better definition could be found than the one given in Circular No. 19 of the United States Department of Agriculture:

"A flavoring extract is a solution of ethyl alcohol of proper strength of the sapid and odorous principles derived from an aromatic plant, or parts of the plant, with or without its coloring matter, and conforms in name to the plant used in its preparation."

Extracts are divided to advantage in four classes:

1. Those obtained by solution of essential oils.
2. Those obtained by percolation of roots, leaves, seeds, beans and fruit of the plant.
3. Solution of synthetics, such as vanillin, and coumarin tinctures.
4. Solution of compound esters.

First Class.—Under the first class the following are used for flavoring extracts:

Almond extract, anise extract, celery seed extract, cassia extract, cinnamon extract, lemon extract, terpeneless lemon extract, orange extract, terpeneless orange extract, rose extract, peppermint extract, savory extract, spearmint extract, sweet marjoram extract, sweet basil extract, thyme extract, wintergreen extract, lime extract, nutmeg extract, spruce extract and birch extract.

Second Class.—Under the second class are the following:

Vanilla extract, obtained by extraction of vanilla bean. Celery seed, obtained by extraction of celery seed. Tonka extract, obtained by extraction of tonka beans. Ginger extract, obtained by extraction of ginger root. Orris extract, obtained by extraction of orris root. Raspberry extract, obtained by extraction of raspberries. Strawberry extract, obtained by extraction of strawberries. Cassia extract, obtained by extraction of stems, barks and leaves. Clove extract, obtained by extraction of clove buds.

Third Class.—Under the third class are extracts as follows:

Vanillin extract, solution of vanillin synthetic principle of vanilla bean. Coumarin extract, solution of coumarin, synthetic principle of tonka bean. Safrol extract, solution of safrol, synthetic principle oil of sassafras. Imitation wintergreen extract, solution of methyl salicylate, synthetic principle oil of wintergreen. Imitation almond extract, solution of benzaldehyde, synthetic principle oil of bitter almonds.

Fourth Class.—Under this class are extracts as follows:

Imitation pineapple extract, imitation strawberry extract, imitation peach extract, imitation raspberry extract, imitation banana extract and imitation apple extract, which are compound solutions of amyl butyrate, ethyl butyrate, amyl acetate, ethyl formate, ethyl acetate, amyl valerinate, in proportion to suit the taste of the individual extract maker.

Of course, before arriving at standards for extracts you must always be sure that the articles used are as repre-

sented. To begin with, you want to be sure to use 95 per cent. alcohol or 190 proof, so called in the trade, double Cologne spirits, and if you buy spirits with the Government stamp on it, you are reasonably sure of its purity. Would also suggest insisting that the spirit you buy are put up in glued barrels. This prevents any solution from the wood of the barrel, which in many cases affects the color, the taste and the solvent properties of the spirits in question. When the spirit reaches your place of business, having taken the aforesaid precautions of specifying the spirits you desire, as well as glued barrels, weigh the barrel containing the high proof spirits at once and note if the weight agrees with the Government gauger's weight stamped around the bung of the barrel. If it does not, notify the distiller at once before opening. If this weight is correct, open the barrel and determine the proof with the hydrometer always used for this purpose. After the barrel is emptied, weigh it as before, which should always agree with the marks on the barrel, and if you will then divide the net pounds by the 6.7963, which is the weight of one gallon 95 per cent. alcohol, you should give the amount of gallons of alcohol in the barrel. In my experience I find it best to keep a record book of the absolute amount of alcohol taken from the barrel and where used; that is, in what extract it was used, and by keeping another book known as "manufacturers' record book," you can check these books against your stock record and account for alcohol used.

The next important factor in the manufacture of extracts is the use of distilled water, for by using distilled water you eliminate any articles which might possibly disturb the flavor or taste of the extract, and at the same time distilled water has greater solvent power than water with the mineral ingredients therein.

The third general consideration is to be sure that you are buying pure oils, unadulterated roots, fruits, seeds or beans, and in this regard I can give you no better advice than always buy these articles from reliable concerns, who give you guarantee as to its purity and also from time to time confirm their purity by analysis of the oils or other crude products you use in the manufacture of your extracts. I will take this up further when I discuss the individual extracts.

The standard of extracts as accepted by the Department of Agriculture as well as by the trade are given in the table (printed at the top of the next page), which shows the minimum amount of oil each extract must contain, and from my experience the per cent. of alcohol necessary to hold the required amount of oil in solution, also where any special addition is allowed, it is mentioned in the table under remarks.

The terpeneless extract of orange and lime needs yet careful study to determine its ingredients, but I believe if you will make this in 45 to 53 per cent. alcohol you will have the terpenes reduced to a minimum and still comply with the standard for terpeneless extract of orange or lime, which should be an extract more or less free from terpenes and corresponding in flavoring strength to the regular 5 per cent. orange extract or 5 per cent. lime, respectively.

After you have taken all the precautions of having pure articles and prepared your extract so that they will have when completed the amount of oil required by the standard and the amount of alcohol necessary to hold this amount of oil in permanent solution, I would suggest your checking the resulting extract by oil determinations, for under the most careful manipulation the human hand will err. The oil determinations for all the aforesaid extracts is practically the same, and so will outline here the method employed in determining oils in the extracts generally.

By Precipitation: "Pipette 20 cc. of the extract into a

*Paper read at second annual meeting of the Flavoring Extract Manufacturers' Association of the United States.

THE AMERICAN PERFUMER

Required oil to be present to the extent of Per Cent.	Alcohol per cent. required to hold the required amount of oil in solution.	Remarks.
Lemon extract.....	80 to 83	Colored with lemon peel.
Orange extract.....	83	Colored with orange peel.
Lime extract.....	90	Colored with lime peel.
Anise extract.....	70 to 73	
Birch extract.....	52 to 58	
Star anise extract.....	70 to 73	
Peppermint extract.....	70 to 75	
Spearmint extract.....	70 to 75	
Wintergreen extract.....	52 to 56	
Cassia extract.....	63 to 66	
Clove extract.....	62 to 63	
Cinnamon extract.....	62 to 63	
Nutmeg extract.....	62 to 65	
Almond extract.....	25 to 30	
Sweet Marjoram extract.....	1	
Rose extract.....	0.4	
Savory extract.....	0.35	
Celery seed extract.....	0.30	
Sweet Basil extract.....	0.10	
Terpeneless lemon extract.....	Requires citral not less than 0.2%, and terpeneless not more than 0.5%.	45 to 53
Terpeneless orange extract.....		45 to 53
Terpeneless lime extract.....		45 to 53

Babcock milk bottle; add 1 cc. dilute hydrochloric acid 1:1, then add from 25 to 28 cc. of water previously warmed at 60° C.; mix and let stand in water at 60° for about 8 minutes; whirl in centrifugal for five minutes; fill with warm water to bring the oil into the graduated neck of the flask; repeat whirling for 2 minutes; stand the flask in water at 60° for a few minutes and read the per cent. of oil by volume. In case oil of lemon is present in amounts over 2 per cent. add to the percentage of oil found 0.4 per cent. to correct for the oil retained in solution. If less than 2 per cent. and more than 1 per cent is present, add 0.3 per cent. for correction."

When the extracts are made according with the United States Pharmacopoeia the results by the methods just given should agree within 0.2 per cent.

To obtain the per cent. by weight from per cent. by volume, as found by either of the above methods, multiply the volume percentage by 0.88 and divide the result by the specific gravity of the original extract.

Negative results by the above methods are conclusive as to the absence of lemon oil. Positive results, however, should be confirmed by determining the physical constants of the precipitated oil.

In the determination of oil content of lemon and orange extract, or like extract, you can also use the polarization method, as follows:

"Polarize the extract without dilution in a 200-mm. tube at a temperature of 20° C., using the S. & H. sugar scale. Divide the reading by 3.2, and, in the absence of other optically active substances, the result will be the percentage of lemon oil by volume.

"A small amount of cane sugar is occasionally present, being used to facilitate solution of the oil. In such cases determine it as directed under sucrose and correct the reading accordingly."

In these extracts it is also well to determine the alcohol.

"Dilute 50 cc. of the extract, measured at 15.6° C. to 200 cc., place the flask in a centrifuge and run until the oil separates in a clear layer at the top; then make up to the mark, using the lower meniscus of the oil. Pour the mixture into a dry Erlenmeyer flask containing 5 grams of light carbonate of magnesia, stopper, shake well and filter quickly through a large dry folded filter. Distill about 100 cc. of this mixture at 15° and determine the specific gravity thereof and obtain the percentage of alcohol from the tables which you will find in any reference books on specific

gravity. Multiply this figure by the volume of distillate (calculated from the specific gravity) and divide the volume of the sample, thus obtaining the percentage of alcohol by volume in the original sample.

In the case of terpeneless extract of lemon, of course, the citral is determined either by the Chase method, Hiltner method or by the hydroxylamine method.

CHASE METHOD.

Determination of Citral in Lemon Extract.

Reagents.

Aldhyde Free Alcohol.—Allow alcohol (95 per cent. by volume) containing grams of metaphenylene diamine hydrochloride per liter to stand for 24 hours, with frequent shaking. (Note.—Nothing is gained by previous treatment with KOH.) Heat under a reflux cooler for at least eight hours, longer if possible (we have often found that 24 hours were necessary), allow to stand over night and distill, rejecting the first ten and last 5 per cent. which come over. Store in a dark, cool place and well-filled bottles.

Fuchsin Solution.—Dissolve one-half gram of fuchsin in 250 cc. of water, add an aqueous solution of SO₂ containing 16 grams of the gas and allow to stand still until colorless, make up to one liter with distilled water. This solution should stand 12 hours before using and should be discarded after three days.

Standard Citral Solution.—Containing 1 milligram of C. P. citral per cc. in 50 per cent. by volume aldehyde free alcohol.

APPARATUS.

A Cooling Bath.—To be kept at from 14° C. to 16° C. The aldehyde free alcohol, fuchsin solution and comparison tubes are to be kept in this bath.

Colorimeter.—Any form of colorimeter using a large volume of solution and adapted to rapid manipulation may be used.

The comparison may also be made by Nessler or Hehner tubes.

MANIPULATION.

Preliminary Determination.—Weigh in a stoppered weighing flask approximately 25 grams of extract, transfer to a 50 cc. flask and make up to the mark at room temperature with aldehyde free alcohol. Measure at room temperature and transfer to a comparison tube 2 cc. of this solution, add 25 cc. of the aldehyde free alcohol (previously cooled in the bath), then 20 cc. of the fuchsin solution also cooled, and finally make up to the 55 cc. mark with more aldehyde free alcohol. Mix thoroughly, stopper and place in the cooling bath for fifteen minutes. Prepare a standard for comparison at the same time and in the same manner, using 2 cc. of the standard citral solution. Remove and compare the colors developed. Calculate the amount of citral present and repeat the determination, using a quantity sufficient to give the sample approximately the strength of the standard. From this result calculate the amount of citral in the sample. If the comparisons are made in the Nessler tube, standards containing 1, 1½, 2, 2½, 3, 3½ and 4 milligrams should be prepared and the trial comparison made against them, the final comparisons being made with standards between 1½ to 2½ milligrams varying about one-fourth of a milligram.

HILTNER'S METHOD FOR THE DETERMINATION OF CITRAL REAGENT.

(a) *Metaphenylene Diamine Hydrochloride Solution.*—Prepare a 1 per cent. solution of metaphenylene diamine hydrochloride in 50 per cent. ethyl alcohol. De-colorize by shaking with fullers' earth or animal charcoal and filter through a double filter. The solution should be bright and clear, free from suspended matter and practically colorless. It is well to prepare only enough solution for the day's work, as it darkens on standing. The color may be removed from old solution by shaking again with fullers' earth.

(b) *Standard Citral Solution*.—Dissolve 0.250 gram of C. P. citral in 50 per cent. ethyl alcohol and make up the solution to 250 cc. with 50 per cent. ethyl alcohol.

(c) *Alcohol*.—For the analysis of lemon extracts, 90 to 95 per cent. alcohol should be used, but for terpeneless extracts alcohol of 40 to 50 per cent. strength is sufficient. Filter to remove any suspended matter. The alcohol need not be purified from aldehydes. If not practically colorless, render slightly alkaline with sodium hydroxide and distill.

Apparatus.—The Schreiner colorimeter or Eggertz tubes may be used. With this latter apparatus alcohol is added, small quantities at a time, to the stronger colored solution until after shaking and viewing transversely the colors of the two tubes are exactly matched. Calculations are then made by establishing a proportion between the volumes of samples taken and the final dilutions.

Manipulation.—All operations may be carried on at room temperature. Weigh into a 50 cc. graduated flask 25 grams of the extract and make up to the mark with alcohol (90 to 95 per cent.). Stopper the flask and mix the contents thoroughly. Pipette into a colorimeter tube 2 cc. of this solution, add 10 cc. of metaphenylene diamine hydrochloride reagent and complete the volume to 50 cc. or other standard volume. Compare at once the color with that of the standard, which should be prepared at the same time, using 2 cc. of the standard citral solution and 10 cc. of the metaphenylene diamine reagent and making up to the standard volume with alcohol. From the result of this determination calculate the amount of standard citral solution that should be used in order to give approximately the same citral strength of the sample under examination, then repeat the determination.

HYDROXYLAMINE METHOD FOR CITRAL.

Solution.—40 grams of hydroxylamine hydrochloride is dissolved in 50 cc. of water and the solution made up to 1 liter with 95 per cent. ethyl alcohol.

Analysis.—25 cc. of lemon oil are mixed with 25 cc. of the hydroxylamine hydrochloride solution. To the mixture are added 25 cc. or more of absolute alcohol to effect solution and finally 0.5 gram of sodium bicarbonate are added. The mixture is boiled gently on a steam bath under a reflux condenser for 45 minutes and then allowed to cool. The reflux condenser is rinsed into the flask, the contents of the flask transferred to a separatory funnel and 100 cc. of water are added. After shaking and allowing to separate the water solution is drawn off into a 250 cc. flask filling to the mark with water. The solution is filtered through a large filter and 100 cc. are taken for titration. The excess of sodium bicarbonate is first neutralized with n/10 sulphuric acid, using methyl orange as an indicator, when neutral phenolphthalein is added and the titration continued with n/10 potassium hydroxide. A blank is run at the same time, as follows: 25 cc. of the hydroxylamine hydrochloride solution are measured from a burette, made up to 250 cc. with water and 100 cc. taken for titration. The free hydrochloric acid is first neutralized with n/10 potassium hydroxide, using methyl orange as an indicator. Phenolphthalein is then added and the titration continued until the solution shows pink. The difference between the number of cc. of KOH required in the blank and the cc. KOH required in the test times 17,715 gives the per cent. of citral.

For *lemon extract* take 100 cc. of the extract, add 10 cc. of the hydroxylamine solution and 0.2 gram of sodium bicarbonate and heat as for the oil. Wash out the condenser and make up to 250 cc. with water. Titrate as in the oil determination and run a blank on 10 cc. of the hydroxylamine hydrochloride solution. The difference between the number of cc. required in the blank and in the

test times $\frac{1.52}{40 \times \text{sp. g.}}$ gives the per cent. of citral or aldehyde.

Of these three methods, the Hiltner method is by far the most desirable, as it does not in the determination show the acetaldehyde present and only the aldehyde normally present in the oil, while the Chase method and the hydroxylamine method would determine acetaldehyde as well, in

fact, all aldehydes. It is also simpler in manipulation, and almost any one in your laboratory can make the analysis.

In connection with the extracts of the first class I am going to add a few more words regarding the properties of the essential oils used in these extracts, so by the determination thereof you can be insured of their purity.

The physical properties that are particularly a keynote to the purity of the extracts are specific gravity, where the variation of .005 is indicative of adulteration, also the boiling point and the optical rotation.

Then the amount of the principal flavoring constituents of the essential oils is also a help in discovering adulteration. The following table gives these properties, and if you will determine these properties of the essential as you buy them for making your extracts, and when you find they vary from the table you can be reasonably sure that they have been adulterated and return them forthwith to the party from whom you bought them.

Under the second class of extracts, vanilla extract is the most important, as you all know.

Vanilla extract is a flavoring extract prepared from vanilla bean, with or without sugar or glycerine, and contains in 100 cubic centimeters the soluble matter from not less than 10 grams of vanilla bean. Such vanilla extract should have a vanillin content of not less than 0.10 per cent. nor more than 0.28 per cent., and the lead number on the total solids should not be less than 0.35 per cent. The alcohol content for this strength of vanilla extract cannot be safely under 30 per cent.

Vanilla bean is the dried cured fruit of the vanilla planifolia andres and includes all kinds of beans, such as Tahiti, the various kinds of Bourbons, Mexican Java and South American.

In choosing the vanilla beans you, of course, realize that you are more or less guided by the physical characteristics, particularly its aroma, its length, than as to its blemishes and also whether it is a perfect bean or a split bean. Then also it is well to know the quantity of resins, and a good bean for extract always has within the pod resinous seeds the full length of the pod. Of course, you realize that the long bean is more desirable than the short, and the perfect bean than the split bean. Besides these physical characteristics, you can always determine the value of the bean by the analysis of the extract, and this same analysis will show you whether the vanilla extract is up to the standard. The principal ingredients are to be determined by the vanillin content, the alcohol content and the lead number. As manufacturers we need not look for adulterants in your own vanilla extract, and the above three determinations made by the following methods will give you sufficient safeguards that your vanilla extract is up to standard and is uniform:

Alcohol by Volume in Vanilla Extract.—Measure out 100 cc. of vanilla extract into a distilling bulb, add 50 cc. of water and distill 100 cc. Determine the specific gravity of the distillate at 15.6° C. and obtain the per cent. of alcohol corresponding to the specific gravity from a table.

Gravimetric Method for the Determination of Vanillin.—Weigh 25 grams of the extract into a 200 cc. beaker showing marks of 25 and 50 cc. Dilute to the 50 cc. Mark and evaporate in a water bath to 25 cc. at a temperature in the bath of not more than 70° C. Dilute a second time to 50 cc. and evaporate to 25 cc. Add normal lead acetate solution drop by drop until no more precipitate forms. Stir with a glass rod to facilitate flocculation of the precipitate, filter through a moistened filter, wash three times with hot water, taking care that the total filtrate does not measure more than 50 cc. Cool and filter and shake with 20 cc. of ether in a separatory funnel. Remove the ether to another separatory funnel and repeat the shaking of the aqueous liquid three times with ether, using 15 cc. each time. Shake the combined ether solution four or five times with 2 per cent. ammonium hydroxide, using 100 cc. for the first shaking and 5 cc. for each subsequent shaking. Set aside the combined ammoniacal solution for the determination of vanillin.

Slightly acidulate this ammoniacal solution with 10 cc. hydrochloric acid. Cook and shake out in a separatory funnel with four portions of ether, as described for the first ether extraction. Evaporate the ether at room tem-

perature in a weighed platinum dish, dry over sulphuric acid and weigh.

COLORIMETRIC METHOD FOR THE DETERMINATION OF VANILLIN.

(1) Preparation of Reagents.

(a) *Vanillin*.—Prepare a standard solution by dissolving 50 milligrams in 25 cc. of alcohol and diluting to 100 cc. with water.

(b) *Moist Lead Hydrate*.—Dissolve 200 grams of lead acetate in 850 cc. of water, filter and add an excess of sodium of potassium hydroxide, let the precipitate settle and wash thoroughly by decantation with repeated portions of water until perfectly neutral. Keep in 500 cc. of water in the reagent bottle, and shake to form an emulsion-like mixture before adding to decolorize.

(2) Determination.

Measure 2 cc. of the extract into a test tube and add about 5 cc. of the lead hydrate; mix thoroughly, pour upon a small wet filter, collect filtrate and washings in a 50 cc. graduated Nessler tube; add an excess of bromine water (3 or 4 drops) and sufficiently freshly prepared 10 per cent. ferrous sulphate solution to produce the maximum bluish-green color that will result if vanillin is present, and fill to the mark with water.

Compare with solution containing a known amount of vanillin treated with and directed as above.

DETERMINATION OF LEAD NUMBER IN VANILLA EXTRACT.

Weigh 50 grams of the sample into a beaker and dealkoholize in a water bath. Wash into 100 cc. measuring flask, add 25 cc. of an 8 per cent. solution of normal lead acetate and fill to the mark with water. Allow to stand over night at a temperature of 37° C., filter through a dry filter and determine the excess of lead in 10 cc. of the clear filtrate as follows:

Dilute the 10 cc. to 50 cc. with water, add a moderate excess of sulphuric acid and 100 cc. of 95 per cent. alcohol. Let stand over night, filter on a Gooch crucible, wash with 95 per cent. alcohol, dry at a moderate heat, ignite at low redness for three minutes, taking care to avoid the reducing cone of the flame; cool and weigh.

The milligrams of lead used up per 100 grams of the sample is the lead number.

Tonka extract is the flavoring extract prepared from tonka bean, with or without sugar or glycerine, and contains not less than 1-10th (O. L.) per cent. by weight of coumarin extracted from the tonka bean, together with a corresponding proportion of the other soluble matters thereof.

Tonka bean is the seed of coumarouna odorata Aublet (*dipteryx odorata*) (aubl will). I can add nothing to this.

(To be continued in January issue.)

COSTA RICA.

LINSEED OIL.—Consul Samuel T. Lee, of San Jose, furnishes the following covering the linseed oil trade of Costa Rica:

The oil comes from the United Kingdom in wooden barrels and in steel tanks. The steel tanks contain 110 imperial gallons. From Germany the oil comes in steel tanks holding 4½ to 9 gallons. The dealers here prefer the steel tanks, on account of leakage in wood barrels.

There is a duty of 7.8 cents per kilo (2.2 pounds) on both raw and boiled oil, to which is added a surtax of 2 per cent. of the duty for the support of the consular service of Costa Rica. Duties are assessed by gross weight, and proper packing thus becomes an important item. The goods must not only reach the buyer in good condition, but they must be shipped in the lightest packing possible.

PATENTS FOR PROCESS OF MAKING SOAP POWDER.

1,007,680. Patented November 7, 1911. Application filed December 3, 1909. Serial No. 531,236. Carleton Ellis, of Montclair, New Jersey, assignor to Ellis-Foster Company, a Corporation of New Jersey.

To all whom it may concern:

Be it known that I, CARLETON ELLIS, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Processes of Making Soap Powder, of which the following is a specification:

This invention relates to process of making soap powders and relates particularly to a dry pulverulent free lathering soap powder intended particularly for shaving and shampooing purposes.

The object of the invention is to produce from soaps which are normally hygroscopic and difficult of drying, a dry pulverulent non-lumping freely soluble, free lathering soap powder, which for shaving purposes will produce a firm, creamy lather without sponginess and having a substantially neutral reaction, and one which for shampooing will be sufficiently neutral and sufficiently free lathering to have marked detergent action and without injurious effect on the hair or scalp.

If ordinary soap is dried, it will be found that it has a tendency as a rule on standing in the container to form coherent masses. Furthermore, owing to its density, it is not freely soluble and does not immediately produce a free lather. Soaps which contain glycerin or potash are particularly difficult to dry owing to their hygroscopic properties. In the endeavor to dry such soaps, high temperatures have been employed with the result that often times the fat or the glycerin is decomposed into products having disagreeable odor and with more or less discoloration of the soap. Even the use of vacuum pans does not readily overcome the difficulty.

Under the present invention, soap powders containing 3 per cent. to 6 per cent. of glycerin and 5 per cent. to 10 per cent. of potash may be made so as to dry readily and produce a satisfactory pulverulent powder free from caking action.

In the selection of the materials to be used under this process, and for the purposes herein specifically mentioned, it is desirable that the stock be light colored in order that the resultant powder may be white or nearly so. For this reason, the use of low grade greases and fats in any large quantity is proscribed. Ordinarily, I prefer to use a considerable quantity of free fatty acid in the manufacture of these products and preferably employ the fatty acids derived from coconut oil or similar light colored fats, or I may make use of stearic acid, the commercial double pressed variety which is sufficiently white for the specific purposes herein mentioned. Fatty acids such as red oil or commercial oleic owing to their dark color are not so desirable. These acids moreover are bleached with considerable difficulty so that they are not generally available for this purpose. The fatty acids obtained by distillation of the fatty acids from cottonseed oil produce a fairly white product, although the soaps made therefrom are not as dry and pulverulent as those from coconut oil and stearic acid but are more inclined to be slightly sticky or gummy.

In a soap materially intended for use on the person, a moderate amount of glycerin is desirable owing to its healing action and to the tonic effect which it produces on the skin. Coconut oil also is believed to have certain healing and medicinal properties and this together with its free lathering powers, makes it a very desirable ingredient in the present composition. In the saponification of coconut oil, some 10 per cent. or 12 per cent. of glycerin is produced and inasmuch as it is not ordinarily feasible to remove this glycerin by salting out in the usual manner, owing to the fact that during the process of salting out, some changes apparently take place in the character of the material which may be due in a measure to the presence of some absorbed salts, etc., it is desirable that saponification be so conducted that the salting out process is eliminated and the glycerin retained in the mixture. How-

ever, as a proportion of 10 or 12 per cent. of glycerin in the product is not desirable—it having been found that 4 to 6 per cent. glycerin is sufficient for the purposes hereinbefore mentioned—means must be taken to reduce the content of glycerin to approximately the lesser amount. This I accomplish in the following manner: Cocoanut oil is saponified with approximately twice the amount of alkali required for its complete saponification, using perhaps an equal amount to twice the amount of water reckoned on the cocoanut oil employed. When saponified, an amount of free fatty acid obtained from cocoanut oil equal in weight to that of the cocoanut oil originally used, is added to the mixture and rapidly agitated with heating until the excess of alkali is substantially neutralized. Then, the mass is subjected to powerful agitation using emulsifying apparatus or similar beating mechanism to vesiculate the soap, filling it with air bubbles and increasing its volume to perhaps twice its original volume. This powerful crutching or beating renders the soap very porous and if the proportion of water is properly regulated, sufficient time elapses before the soap hardens to permit of an increase in volume of the amount mentioned. On removal from the crutching apparatus, the plastic porous material may be poured into frames and allowed to solidify. If the soap is rather liquid owing to the use of an excess of water, the frame should be cooled in some manner, as, for example, by means of a jacket containing cold water. As otherwise, in so fluent a condition, the soapy material might contract and lose more or less of its porosity. When the same has hardened, it may be run through a slicing apparatus and then passed into a drying oven. This preferably should be heated only to 60 or 80 degs. C., as a much higher temperature tends to decompose the fatty material to some extent. Owing to the extremely porous character of the material, the water departs very rapidly and a soap which in the non-vesiculated condition might require several days exposure to this temperature to properly effect the drying, is dried in the course of a few hours when in aforesaid porous state.

In the manufacture of cocoanut oil soaps, a great difficulty has heretofore been experienced in the production of a soap which does not rancify in the course of time. Apparently, this is in a large measure due to the difficulty of complete saponification of the fat resulting in the presence in the finished soap of a small quantity of unsaponified material which eventually becomes rancid. By the present process, saponification of the cocoanut oil with a large excess of alkali overcomes this difficulty and a soap is produced which remains free from rancidity for an indefinite time.

In order to enhance the beneficent effort of glycerin, it is sometimes desirable, especially in shaving soaps, to add a small quantity say from 2 to 5 per cent. of waxy material. This, for example, may be bleached beeswax, spermaceti, paraffin wax and the like. It preferably should be added to the fatty acids which are added to the strongly alkaline soap during the stage of neutralization.

An illustrative formula under the present invention is made by saponifying 10 pounds of cocoanut oil with 2½ pounds of caustic soda and 1½ pounds of caustic potash, using about 2 gallons of water for solution of the alkali in its reaction on the cocoanut oil. This may be boiled down in a steam jacketed kettle until nearly half of the water has been expelled and saponification is complete, when 10 pounds of free fatty acids from cocoanut oil are added and the mixture churned or crutched violently until the volume of the soap product is practically doubled. The soap may then be chilled as heretofore indicated, sliced and dried. After drying, it may be perfumed by means of an atomizer, carrying a suitable perfuming material and then ground. Another illustrative formula consists in cocoanut oil 10 pounds, caustic soda 2 pounds, caustic potash 2 pounds, cottonseed oil fatty acid 10 pounds, all combined as above set forth. Of course, carbonate of soda or potash may displace in whole or in part the caustic alkali used, although it is better for the saponification of the cocoanut oil to use the caustic alkali, using a small excess of this and introducing the remainder of the alkali in the form of carbonate if desired. Another formula consists of cocoanut oil 10 pounds, caustic soda 3 pounds, caustic potash 1 pound, stearic acid 8 pounds, still stock 2 pounds.

In the above formulas, the alkali preferably employed is a mixture of soda and potash while in the following intended more for use as a shampoo powder, caustic soda is used as the sole alkali. The formula is cocoanut oil 10 pounds, caustic soda 4 pounds, red oil 5 pounds, still stock 5 pounds. These materials are incorporated as above indicated and when reduced to a powder, ½ pound of pine tar is added and worked into the powdered material, when the mixture may be reground if desired. Powdered camphor, menthol and thymol may be added to such a mixture in order to suitably medicate it. These powders may be combined if desired with suitable filling materials such as talc or ground soap stone or light colored infusorial earth.

To give a saponifying or disinfecting effect, peroxids, perborates and the like may be introduced, provided they are not materially incompatible with the other bodies employed, or by virtue of any internal reactions deteriorate the materials on keeping. The perborates are especially useful for giving to shaving soap powders desirable hygienic properties. Of course, other antiseptic materials may be added in small quantities, such, for example, as carbolic acid, eucalyptol and the like.

While it has heretofore been customary to pass soap materials in the process of manufacture through crutching devices, more particularly for the purpose of making a uniform mixture and for working the perfumed materials well into the soap, and also for reducing the specific gravity of the soap in those applications where the soap is desired to be somewhat lighter in water, there has been, so far as I am advised, no application of the process of heavily crutching or beating a fluent or plastic soap mass to incorporate into the soap a very substantial amount of air globules so as to render the soap extremely light and porous and by such an operation to substantially double its volume; or for the purpose of rendering the soap highly porous so that it may be readily ground and so that the ground particles owing to their substantially vesicular character exist not as dense pellets but as flakes or vesicles soluble in water with great ease.

While I do not wish to limit myself in the process herein described to the step of crutching to a volume substantially double that of the original soap mass or in other words introducing into the mass a volume of air substantially equal to that of the soap mass itself, yet I have found that employing these proportions, a product is obtained which is very readily handled and I prefer to conduct the operation substantially in this manner.

What I claim is:

1. The process of making a free lathering, easily soluble non-coherent soap powder, which consists in saponifying cocoanut oil with twice the alkali required for combination with its fatty acids, in adding after saponification of the fatty oil, a quantity of free fatty acids, sufficient to neutralize said alkali and in crutching the resulting product to substantially double its volume and in subsequently drying and grinding to a fine powder.

2. The process of making a free lathering, easily soluble non-coherent soap powder which consists in saponifying a glycerid of fatty acid with substantially twice the amount of alkali required to neutralize the fatty acid in said glycerid, in adding after complete saponification, a quantity of free fatty acid sufficient to neutralize the excess of alkali and in crutching the material to a highly vesicular condition and in drying and grinding the resulting product.

3. The process of making a free lathering, easily soluble non-coherent soap powder which consists in saponifying cocoanut oil with twice the amount of alkali required for its saponification, said alkali comprising caustic soda and caustic potash, in adding after saponification a quantity of free fatty acid sufficient to neutralize the excess of alkali and in rapidly agitating in the presence of air, to introduce into said mixture a volume of air substantially equal to that of the soap mass, in drying and grinding the resulting mixtures. (Claim 4 omitted.—Ed.)

In witness whereof I have affixed my signature in presence of two witnesses.

CARLETON ELLIS.

Witnesses:
NATHANIEL L. FOSTER,
JAMES T. ERNOTT.

TRADE NOTES

Mr. C. G. Euler, president and treasurer of the Antoine Chiris Co., American agents of Antoine Chiris, Grasse, France, who has been on an extensive trip in Europe, returned on the *Oceanic*, December 14.

Mr. S. Isermann, of Van Dyk & Co., New York, left December 4 for Mexico. Will be gone for a month. He is taking this trip to look after the firm's affairs in that country.

During the recent "Rexall" convention in Boston, Mr. George Hall, president of the United Perfume Co., addressed the assembled stockholders of the United Drug

Co., the parent corporation, and told of the growth of the company's perfume business. He was sketched by Mr. C. E. Murnan, secretary of the drug company, but whether the address was concluded before the sketch, or the artist despaired of doing justice to Mr. Hall's shapely nether limbs we do not know. It is probably not

necessary to point out that the legs in evidence are those of the table. We are indebted to the *Rexall Advantages*, the company's sprightly organ, for this contribution to art and an interesting item in the current history of the perfume industry.

Mr. A. J. Hilbert, the well-known Milwaukee perfume manufacturer, who recently returned from Japan and the Philippine Islands, was a visitor to this city early this month.

Mr. Herbert O'Donoghue, of Spurway & Co., Cannes, France, producers of perfumers' raw materials, has just received "La Croix d'Officier d'Academie." Mr. O'Donoghue has been engaged in business on the Riviera for 40 years. He is now Brazilian Consul in Cannes, and has been president of the British Chambers of Commerce of the Riviera.

Mr. Albert Hirzel, of Hammer & Hirzel, Constantinople, Turkey, was a recent visitor to these shores. In company with Mr. Daniel P. Daugherty, of the Na-

tional Aniline & Chemical Co., the American agents, Mr. Hirzel visited the leading makers of perfumes in the interest of the firm's brand of Otto of Rose. The business was established about 75 years ago, and is now in the central of descendants of the founders. Mr. Hirzel sailed for home November 18 on the *President Grant*.

Mr. S. P. Bancroft, of Willis H. Low & Co., Boston, sailed for Europe on November 30 and expects to return about January 1. Mr. Bancroft always takes his vacations in December and a trip across the ocean is generally indulged in by him.

Mr. Russell R. Sloan, manager of vanilla bean department for Dodge & Olcott, left for Mexico on December 6 to study conditions regarding vanillas.

Mr. F. Dodge, manager of London house of Dodge & Olcott, was in New York recently on a visit and remained for a few weeks.

Mr. W. E. Swindell was presented with a daughter on Saturday, December 2. Mr. Swindell is of the firm of Swindell Bros., glass bottle manufacturers, Baltimore, Md., and makes his headquarters in New York. Recently he managed for the Paint and Powder Club of East Orange, N. J., the production of "The Image of Biz-Biz" at the Lyceum Theatre, on December 8, and the receipts were turned over to the Homeopathic Hospital.

A jury in the Supreme Court in New York on December 7 found a verdict in favor of Colgate & Co. in the action against the company in which Mrs. W. K. Morrill asked \$10,000 damages on the allegation that her hair was injured by the use of "Quinol," a remedy for the hair. She is the wife of F. C. Morrill, druggist, 1297 Amsterdam avenue, and she will appeal the case. Witnesses testified they had used the hair tonic and had not noticed the effects claimed by the plaintiff.

An agreement has been reached whereby Ogston & Tennant, Ltd., soap and candle manufacturers, Glasgow and Aberdeen, Scotland, will in future work in association with Lever Brothers, Ltd., of Port Sunlight. The Scottish businesses will be conducted under the same management as hitherto. Large new works are being erected at Glasgow to take the place of those recently destroyed by fire.

Mr. Thomas H. Beck, who retired recently as advertising manager of the Procter & Gamble Co., Cincinnati, to come to New York to enter the same line, was tendered a farewell dinner at the Business Men's Club by the Cincinnati Laundrymen's Association. Silas B. Waters, the president of the association, acted as toastmaster, and a number of congratulatory talks were made. Mr. Beck has been succeeded in the Procter & Gamble position by R. R. Deupree, who was his assistant.



MR. GEORGE HALL.

Mr. Arthur Russell, of Rockhill & Vietor, New York, has been the recipient of many congratulations on the arrival of a baby daughter last month.

Mr. Charles H. Silvey, representative in Philadelphia of the Armstrong Cork Co., Pittsburg, Pa., has been elected secretary and treasurer of an organization devoted to bowling, composed of star players in the wholesale drug trade.

Mr. Oscar W. Smith, manager of the New York branch of Parke, Davis & Co., Detroit, is home from a trip to South America which necessitated crossing the Atlantic Ocean four times, the journey having been made via Europe. Mr. Smith visited many of the important cities in Brazil, Paraguay and Argentina in behalf of his company.

Mr. W. M. McCormick, of McCormick & Co., Baltimore, Md., president of the Flavoring Extract Manufacturers' Association of the United States, attended the recent annual meeting of the American Specialty Manufacturers' Association, which was held in the Hotel Astor, New York City.

Mr. Samuel S. Fels, of Fels & Co., manufacturers of soaps, has been elected a member of the New York Produce Exchange.

Mr. George A. Wattles, Jr., buyer in Michigan and Indiana for Fritzsche Brothers, of this city, has returned home after a visit to New York.

Mr. G. H. Suddard, of M. L. Barrett & Co., Chicago, was a visitor to the East last month. He reports that the fall business in the Middle West has been good and in fact somewhat ahead of the trade during same period last year. The St. Louis office of the firm is now in charge of Mr. A. H. Kelling.

Globe Soap Co., of Cincinnati, has declared the regular quarterly dividends of 1½ per cent. each on the first, second and special preferred stocks, all payable December 15.

Standard Soap Co., West Berkeley, Cal., is reported to have been sold for \$1,000,000 to a syndicate of Chicago capitalists, headed by A. G. Schmitt, a manufacturer of that city. Mr. Schmitt is to have charge of the plant, which will be enlarged and approved.

The London *Standard* announces that Brunner, Mond & Co. (Limited), chemical manufacturers, have obtained control of the immense soap manufacturing concerns of Joseph Crossfield & Sons (Limited), Warrington, and W. Gossage & Sons (Limited), Widnes. The transaction will have immediate effect. Crossfields' has been in existence for over a century, while Gossage was founded sixty years ago. Brunner, Mond & Co. was started in 1873 by Sir John Brunner and the late Dr. Ludwig Mond.

American Tooth Powder Co., 70 Fifth avenue, New York, was sent into bankruptcy December 3, by three creditors: Victor C. Bell, \$5,226; Robert R. Lawson Co.,

\$5,208, and Robert R. Lawson, \$650. It was alleged that the company is insolvent and made preferential payments \$500. Judge Holt appointed Wilder Goodwin receiver on application of Carell & Henkel, who said that the liabilities are \$18,000 to \$20,000 and assets probably \$1,000, that the company had spent considerable money in advertising and did not have sufficient capital to continue the business. The company was incorporated in March, 1908, with capital stock \$250,000, Victor C. Bell was president and Robert R. Lawson secretary. The company was formed shortly after the bankruptcy of the American Dentifrice Co.

J. Edward Young, Jr., of Thurston & Braidich, this city, has just returned from a month's business trip to Europe.

Calvin Hotchkiss, president of the H. G. H. Essential Oil Co., of Lyons, N. Y., was a recent visitor in the oil trade in this city.

Mr. Harry M. Montford, of Lebanon, Pa., has become a traveling salesman for the J. B. Williams Co., of Glastonbury, Conn.

Puritan Soap Co., Rochester, N. Y., has installed a large electric motor and will use electricity for power hereafter.

The E. M. Davis Soap Co., of Chicago, is reported to have rented offices in the Jenkins Arcade, Pittsburgh, Pa.

All of the salesmen of the Hymes Bros. Co., 235 Pearl street, have returned for the holidays and for consultation in relation to next year's campaign. The company reports that during the year just ending its business has been better than ever before.

Mr. Leon Givaudan, manufacturer of synthetics in Geneva, Switzerland, sailed for home on Thanksgiving Day on *La Savoie*. Mr. Givaudan had been here less than two weeks, but may return next spring to give more time to the sale of his products in this city.

Mr. Ben Elson, of Elson & Brewer, New York, made a flying trip to the Middle West early this month. Having closed a good year, Mr. Elson is sailing for the other side in a few days, and will return in a month or so brimful of new ideas, and filled with his familiar enthusiasm.

Dr. Percy I. Isherwood, chief chemist for W. J. Bush & Co., Ltd., London, Eng., arrived by the *Lusitania*, November 24. He is here for a short stay and will give his attention to special matters.

The De La Claire Manufacturing Co., of South Bend, Ind., formerly owned and operated by Frank De La Claire who was recently convicted of grand larceny in the circuit court, and is now serving a term of one to fourteen years in the Michigan City penitentiary, has been purchased by the International Remedy Co. The latter concern which moved to South Bend recently from Nappanee, Ind., will begin at once to move its

quarters to the De La Claire building in West Division street. The company will continue to manufacture perfumes, soaps and toilet articles. The International company is capitalized at \$50,000. The officers are: Charles I. Domer, of Goshen, president; Dr. N. J. Bolan, of Peru, charge of the medical department; Louis Stouder, treasurer; Jacob T. Rellinger, secretary, and F. S. Rellinger, manager. The Puritan Manufacturing Co. was not included in the deal. Raymond L. French, who was defrauded of \$3,300 by De La Claire, according to the decision of the circuit court jury, has been given controlling interest in the Puritan company.

Mr. Louis Fischer-Dick, of Dr. Oehler & Co., G. m. b. H., Kahl-on-Main, Germany, sailed for the other side on December 7, on the *Cincinnati*, bound for Genoa. He reports good results from his trip and expects the business of the firm to make good progress in the hands of the American agent, Mr. Paul Puttmann, 55 John street, New York.

Jeancard Fils & Co., Cannes, France, have been instrumental in securing the formation of a corporation that will devote its attention to the perfume, flower and plant industry. It will devote its energies particularly to the following purposes:

1. Applying modern methods of intensive cultivation and of selection.
2. To substitute machinery, as far as possible, for manual labor.

It has been decided to give first attention to roses, and with this object, a plot of land of about seventy hectares has been bought. All the products from the flowers and plants cultivated by the company will be treated at the factory of Jeancard Fils & Co.

Miss Hazel Zannie, an 18-year-old stenographer, of Dayton, O., recently was made very sick through drinking the contents of a two-ounce bottle of violet perfume. The girl said she had used the perfume right along as a mouth wash and for perfuming her breath, but the usual application had failed to destroy the odor of cigarette smoke and she took the larger dose. The young man who induced her to smoke the cigarette will be asked to pay the doctor's bill.

About Tinnol, the adhesive for labels on tin, the Arabol Manufacturing Co., New York City, quotes the C. L. O. Metal Polish Co., of Newark, N. J., as writing as follows: "It is not only very satisfactory, but positively the best we ever used."

Lange Soap Company, San Antonio, Tex., has increased its capital stock from \$40,000 to \$100,000. In the directors are B. J. Lange, F. Lange and J. W. Ruwe.

The *Daily Enterprise*, of Burlington, N. J., gives an interesting history of the Stuart & Peterson Company, manufacturer of chemists' appliances, of that city, running from 1840 to 1911. Begun in a small way in Philadelphia, the company in 1893 moved to Burlington, where more space for the constantly growing business was available. Since then there has been a succession of enlargements, and the plant now is not only very large, but is complete in

every manufacturing detail. John J. Kearns, son of one of the founders, is head and general manager, while the secretary-treasurer, A. C. Faust, has long been with the company, having been one of the owners when the plant was moved to Burlington almost twenty years ago.

Monsanto Chemical Company, of St. Louis, Mo., manufacturers of vanillin, have purchased the entire block connecting with their present plant in South Second street. Extensive improvements have been made in the plant.

Blanke-Baer Chemical Company, St. Louis, Mo., extracts, essences and essential oils, have sent out notice to the effect that C. E. Downey is no longer with that company, and that another representative will cover his territory shortly. Dr. S. H. Baer will continue, as heretofore, his active supervision of the plant.

Craig Biddle at a dinner in Newport defended cosmetics and attacked scandal mongering in one neat epigram.

An elderly matron was criticising certain young girls for using rouge and powder in what she deemed an immodest manner.

"But," said Mr. Biddle, "those girls were educated in France, and over there, as you know, cosmetics are looked on as necessary—the same as we look on bread and meat."

"Nevertheless," said the matron, "I have my suspicions about girls who paint like that."

"Well, as for me," the young man retorted, "I think it is far better for a lady to redder her own cheeks than to blacken other ladies' characters."—*Philadelphia Times*.

Announcement is made that the General Drug Co., 14-16 Vesey street, New York, has been appointed agents for Lanolin Liebreich, having been licensed by the Liebreich heirs and the manufacturers of the product, Berliner Ceresin Fabrik Graab & Kranich. The new agents are now prepared to furnish Lanolin B. J. D., Dart-ring brand and Adeps Lanae, hydrous and anhydrous, in one pound tins or in bulk in barrels or tins.

NEW CORPORATIONS.

Fort Mountain Talc Company of Georgia has been incorporated in New York State by Joseph P. Smithers, 129 Berkeley place, Brooklyn, N. Y.; Bartholomew B. Coyne and Clark H. Abbott, 29 Broadway, New York City. The capitalization is \$30,000.

Lewis County Glass Co., Weston, W. Va., capital, \$75,000, has been incorporated to manufacture all kinds of glassware by George I. Keener, J. M. Dennison, F. G. Orr, W. G. Schmid and H. P. Travis.

Ashville Talcum Co., Ashville, N. C., has been incorporated to deal in real estate and manufacture talc, by F. R. Hewitt, C. T. Rawls and others.

Wm. H. Corner Co., Niagara Falls, N. Y., has been incorporated to manufacture toilet articles. The incorporators are: David J. Mattice, Nicholas L. Brass, Wintworth Barron, Niagara Falls; E. K. Young, Buffalo; E. T. Arnold and Truman M. Osborne, La Salle.

OBITUARY.

Herr Geh. Kommerzienrat Dr. Eugen de Haen, senior partner of the Chemische Fabrik "List," Seelze, near Hanover, Germany, died on November 15, of heart failure, at the age of 75 years. Dr. de Haen was one of Germany's leading chemical manufacturers and had a highly interesting career. Beginning business as a manufacturer of pharmaceutical chemicals in a very small way in 1861, he gradually succeeded in building up one of the most important chemical works in Germany, the business now being one of the biggest and best equipped of its kind. Dr. de Haen was not only a first-class chemist, but had the rare gift of discerning and anticipating the requirements of various industries, and he made it a point to supply these wants. Many chemicals now in common use were first manufactured by him on a large scale. At the advanced age of sixty-eight Dr. de Haen undertook the difficult task of building a new factory, when the manufacture of new branches of chemical industry was taken up. The firm celebrated its fiftieth anniversary on September 1, 1911, as previously reported in this journal. On this occasion Dr. de Haen gave 50,000 marks to the workers' fund. The business will be carried on by his son, Dr. Wilhelm de Haen. The American representatives are Pfaltz & Bauer, of this city.



DR. EUGEN DE HAEN.

Mr. Thomas M. Curtius died Tuesday morning, December 5, and was buried from his late home, Staten Island, on December 7. He was born in Bremen, Germany, in 1863, and came to this country as a young man finding employment in one of the leading wholesale drug houses in this city. After faithfully serving in that house for more than 12 years he started on his own account as a drug broker. He soon forged ahead and he had become at his death one of the most prominent factors in the drug trade and represented Procter & Gamble for glycerine. He left a widow.

Mr. Emery T. Booth, formerly perfumer for A. A. Vantine & Co., died Tuesday, November 28, at his home in Brooklyn, N. Y. The family is one of perfumers, as a brother, Mr. C. F. Booth is with the Larkin Co., Buffalo, N. Y., and a son, Mr. C. F. Booth, Jr., with John Wanamaker, New York.

PRICE LISTS, CIRCULARS, ETC., RECEIVED.

SEMI-ANNUAL REPORT OF SCHIMMEL & CO. (Fritzsche Brothers), Miltitz (near Leipzig), October, 1911.—This publication, which has won for itself an important position in its field, is again at hand. The following is the table of contents: Introduction; Commercial notes and scientific information on essential oils; New essential oils; Pharmacopeias; Chemical Preparations and Drugs; Notes on recent research work.—General, Analytical, Physical, Pharmaco-physiological, Phyto-

physiological; Chemical.—Hydrocarbons, Alcohols, Aldehydes, Ketones, Phenols and Phenol Esters, Acids, Nitrogenous Bodies.

The introduction, which was written in September, gives a general review of conditions in Germany and elsewhere, with regard to crops, political conditions, etc.

Pages 34, 35 and 36 are devoted to a discussion of "Schimmel's test" for citronella oil, and reference is made to criticisms of this method of determining the fruit of the oil, voiced by Messrs. Parry and Murray in England. Dr. Kleber, in this country gave his reply to Parry's comments in our June (1911) issue, page 86, and in this issue there appears another article by Parry, and to it is joined Dr. Kleber's reply.

Among the new essential oils reported are *Oil of Artemisia Coerulescens, L.*, having an odor similar to hyssop and ambrette; *Cardamom Root Oil* (showing, on analysis, the presence of cineol, bisabole and a paraffin); *Oil of Matricaria discoidea*, having an odor intermediate between that of common and of Roman chamomile oil.

Comments are made on the new German Pharmacopœia, V, and the supplement to the fourth edition of the Dutch Pharmacopœia.

EUGEN DE HAEN, Seelze, near Hanover, Germany (Pfaltz & Bauer, 300 Pearl street, New York, American agents).—This firm has sent us a finely illustrated and interesting memorial brochure which has been published in connection with its fiftieth anniversary, mention of which appeared in our November issue. The brochure gives a history of the formation and remarkable growth of this enterprise. Dr. Eugen de Haen, its founder, was still at the head until his death. His son, Dr. Wilhelm de Haen, has been with the firm for a long period.

STAFFORD ALLEN & SONS, LTD., London.—Price list and market report for November-December is at hand. It gives quotations for essential and expressed oils and for Allen's Oleoresins, as well as for powdered drugs, etc., and perfumery products.

H. SALLE & CO., Paris, send to us the *Annales de la Drogue et de ses Dérives*, for October, 1911, which treat in French of a variety of subjects, including l'oleum rusci, l'hyraceum le bassia longifolia and other substances.

HARRY L. NOTTER, Chicago.—Price list of perfumers' synthetics. Mr. Notter gives quotations for the full list which he handles.

C. E. HOLBROOK, Attleboro, Mass.—Price list of H-A perfumes, toilet waters, extracts and toilet preparations, including Mimosa toilet cream.

Germany's Menthol Production.

Menthol production in Germany and German colonies. H. Thoms. *Apoth.-Zeit.*, 1911, 26, 686-687.

Several peppermint plants were obtained from Japan, the species being *Mentha canadensis var piperascens* Briq. Some of these were cultivated at Dahlem, near Berlin, and others in German South West Africa. The Dahlem plants yielded 0.893 per cent. of oil reckoned on the dry weight of the plant. This oil had the sp. gr. 0.8954 at 22° C., and became solid at + 14.5° C. The total menthol content was 78.817 per cent. The dried plants from Africa yielded 0.976 per cent. of oil reckoned on the dry material. The sp. gr. was 0.9032 at 22° C. and the oil solidified at 20°-20.5° C. The percentage of total menthol was 84.83.

PURE FOOD AND DRUG NOTES.

In this section will be found all matters of interest contained in FEDERAL AND STATE official reports, newspaper items, etc., relating to perfumes, flavoring extracts, etc.

FEDERAL.

(Notice of Judgment No. 1126.)

Misbranding of Vanilla and Lemon Extracts, Essences of Bitter Almond, Wintergreen and Peppermint.

On September 7, 1910, the Christiani Drug Company, Inc., of Washington, District of Columbia, sold to John F. Earnshaw certain food products labeled as follows: (On carton) "Two ounces, Christiani's Premier Brand Extract of Lemon, contains 92 per cent. Alcohol. Christiani Standard of quality, Manufactured by Christiani Drug Company, Inc., 426 Ninth St., N. W.; 638 Pennsylvania Ave., N. W., and Union Station, Washington, D. C. (Guaranty Legend) Serial No. 2318." (On carton) "Two ounces Christiani Premier Brand Extract of Lemon, contains 92 per cent. Alcohol, Christiani Drug Company, Inc., 426 Ninth St., N. W.; 638 Pennsylvania Ave., N. W., and Union Station, Washington, D. C. (Guaranty Legend) Serial No. 2318." The product marked I. S. No. 5995-c was labeled: (On carton) "Two ounces Christiani's Premier Brand Essence of Bitter Almond. Contains 77 per cent. Alcohol. Christiani Drug Company, Inc., 429 Ninth St., N. W.; 638 Pennsylvania Ave., N. W., and Union Station, Washington, D. C. (Guaranty Legend) Serial No. 2318." The product marked I. S. No. 5995-c was labeled: (On carton) "Two ounces Christiani's Premier Brand Essence of Wintergreen; contains 91 per cent. Alcohol. Christiani Standard of Quality. Manufactured by Christiani Drug Company, Inc., 429 Ninth St., N. W.; 638 Pennsylvania Ave., N. W., and Union Station, Washington, D. C. (Guaranty Legend) Serial No. 2318." The product marked I. S. No. 5997-c was labeled: (On carton) "Two ounces Christiani's Premier Brand Essence of Peppermint; contains 86 per cent. of Alcohol. Christiani Standard of quality. Manufactured by Christiani Drug Company Inc., 429 Ninth St., N. W.; 638 Pennsylvania Ave., N. W., and Union Station, Washington, D. C. (Guaranty Legend) Serial No. 2318."

These products were analyzed, and as the findings of the analysts indicated that the products were misbranded the Christiani Drug Company, Inc., was afforded an opportunity for a hearing. As it appeared after hearing that said sales were made in violation of the act, criminal informations were filed in the Police Court in the District of Columbia, alleging misbranding on the ground that the labels were false and misleading and calculated to mislead and deceive the purchaser in this, to wit, that each label contained statements as to the amount of the contents of the bottle, and content of alcohol, which were false, in that the bottles in each case contained a less amount of the product, and a different percentage of alcohol, than that stated on the label. Misbranding was further alleged in the case of the lemon extract, I. S. No. 5994-c, for the reason that the said label represented the product to be an extract of lemon when it was not an extract of lemon, but a diluted extract of lemon. The five informations contained eleven counts, alleging misbranding.

On June 9, 1911, the defendant company, through its secretary, Orlando G. Hall, entered a plea of guilty to each and every count of each information; whereupon the court imposed fines aggregating \$280.

(Notice of Judgment No. 1150.)

Adulteration and Misbranding of Vanilla Extract.

On March 25, 1911, the United States Attorney for the District of New Jersey filed a libel praying con-

demnation and forfeiture of one five-gallon package of a product purporting to be vanilla extract in the possession of John K. Psichos.

Analysis showed the following results: Vanillin, 0.80 per cent.; coumarin, 0.10 per cent.; caramel present. The container was labeled, "XXXX Vanilla." The libel alleged that the product, after shipment by the Manhattan Importing Company, of Cleveland, Ohio, from Ohio into New Jersey, remained in the original unbroken package and was adulterated and misbranded. Adulteration was alleged for the reasons that the substance was not pure vanilla extract, but was a product containing vanillin and coumarin, which had been mixed and packed with and substituted for vanilla extract. Misbranding was alleged because the product was sold under the distinctive name of another article, to wit, vanilla, when in fact it was not vanilla.

On April 20, 1911, the court entered a decree condemning and forfeiting the goods and ordering their destruction by the marshal.

(Notice of Judgment No. 1147.)

Adulteration and Misbranding of Lemon Flavoring.

On April 11, 1911, the United States Attorney for the western district of Michigan filed information against Charles I. Cook, trading as Carpenter-Cook Company, Menominee, Mich., alleging shipment from Michigan into Wisconsin of a quantity of a product labeled: "M. R. P., Lemon substitute. A pure flavoring for ice creams, jellies, custards, cakes, etc. Prepared by the Michigan Refining & Preserving Company, Menominee, Mich."

Analysis showed the following results:

Alcohol, volume per cent.....	20.32
Lemon oil by precipitation.....	0.00
Lemon oil by polarization.....	0.00
Citral005
Solids075
Sucrose	Absent
Color	Coal tar dye

Adulteration was alleged for the reason that a dilute solution of alcohol, containing practically a negligible quantity of some of the ingredients of lemon oil, artificially colored, had been substituted wholly or in part for the article, and that the product had been colored in a manner whereby its inferiority was concealed. Misbranding was alleged for the reason that the word "substitute" appears on the label in such small letters that the general effect is to convey the impression to the purchaser that the product is a lemon flavoring or extract of extraordinary strength and purity, when, in fact, it contained none of the essential oil of lemon, but was a fraudulent substitute therefor, prepared from a combination of chemicals artificially colored in imitation of genuine lemon extract containing alcohol, citral, solids and a coal-tar dye.

On June 7, 1911, the defendant entered a plea of guilty and was fined \$50.

STATE.

NORTH DAKOTA.—One flavoring extract only is reported in the October Special Bulletin issued by Commissioner Ladd. It is as follows:

"7945—Vanilla Extract. No-eke-wil Brand. W. B. & W. G. Jordan, Minneapolis, Minn. Short weight. Misbranded."

The law in North Dakota strictly prohibits the sale of any product which contains wood or methyl alcohol, whether the product be intended for internal or external purposes, including washes and perfumes. The law very properly prohibits the sale of this class of products for the reason that wood alcohol is a deadly poison. It has caused the death of many persons who have taken the same in the place of grain alcohol, and has also produced blindness from the use of only a small quantity. It has been shown that enough of the product may be absorbed from surface applications

to prove injurious. Recently two products have been examined, both intended for use upon the hair, which have as their principal constituent wood alcohol.

WYOMING.—The new State law regulating the sale of food, drinks, drugs and illuminating oil, enforcement of which was postponed from July 1 until October 15, in order to give an opportunity for manufacturing outside of Wyoming to comply with its provisions, is now fully operative. It is very much the same as the Federal law, except that it is more strict in the matter of weights.

Kansas Food Regulations Amended.

KANSAS.—The Kansas Board of Health has adopted several amendments to the State Food and Drug Law of 1907, the following being of interest to our readers:

Regulation 5, paragraph "b," is amended to read:

(b). Proprietary, medicinal preparations and similar medicinal products are required to conform in composition to the freshly prepared non-deteriorated article, and to conform to the claims made for the preparation as to therapeutic properties, quality and strength.

Regulation 15, paragraph "e" is amended to read:

(e). Descriptive matter upon the label shall be free from any statement, design or device regarding the article, or its therapeutic properties, or the ingredients or substances contained therein, or quality thereof, or place of origin, which is false or misleading in any particular. In the case of materials used in the preparation of foods, or medicinal preparations, descriptive matter upon the label shall be free from any false or misleading statement in regard to the composition or ingredients of the food, or therapeutic properties of the medicinal product, prepared by the use of such materials.

In the Kansas Bulletin, No. 10, these cases are reported under the Food and Drug Law:

Insp. No. 2954. "Quinegg Shampoo Jelly." Vosburg Company. Sample consists of green, opaque jelly-like soap. It is evidently a potassium soap, made from cocoanut or palmnut oil, or a mixture of the two. Contains glycerine and sugar, but no quinine or egg. Misbranded.

Insp. No. 2960. "Petroleum Jelly." Knox Five and Ten Cent Stores, Kansas City. Used U. S. P. test. Odor and slight taste of petroleum. Has a decided fluorescence in unmelted state, which becomes quite marked after melting. Specific gravity at 60°, 0.862; melting point, 45.5° C. Sample was labeled "Refined U. S. P. Petroleum Jelly." U. S. P. petroleum jelly should have no petroleum odor, no taste, nor fluorescence in unmelted state, and only slight when melted. Specific gravity should be 0.830 to 0.850, and melting point 45° to 48° C. Adulterated.

Insp. No. 9012. "Saxolite." Manufactured by the Dearborn Supply Company, Chicago. Directions are to dissolve saxolite in witch hazel and apply. This lotion is recommended by the manufacturers to remove wrinkles. Saxolite was found to be composed of 52 per cent. of alum and 48 per cent. of magnesium sulphate.

Insp. No. 9013. "Kulux." Distributed by the Kulux Manufacturing Company, Rochester, N. Y. Kulux is declared by the manufacturer to immediately beautify the neck, arms, hand and shoulders to instantly obliterate tan, roughness and discoloration of any kind to restore a youthful appearance to the skin, no matter how old one may be. Declared to be manufactured in Paris and imported exclusively by the Kulux Manufacturing Company, Rochester, N. Y. The directions are to add one teaspoonful of the preparation to a basin of water and apply. Sample consists of a perfumed mixture of a dilute aqueous solution of glycerin, 69.8 per cent. of zinc oxide and 30.2 per cent. bismuth subcarbonate.

Insp. No. 9014. "Marlux." Manufactured by Sheffield Pharmacal Company, Chicago. Declared by the manufacturers to lighten the color of any except black hair. Will keep the hair light and give a beautiful golden tint to blonde hair. Marlux consists of German chamomile. Contents of the package weighed 29 grammes and retailed at \$1.

Insp. No. 9015. "Pure Mercolized Wax." Manufactured by Dearborn Supply Company, Chicago. Preparation was declared by the manufacturer to remove thin veil of half-dead cuticle and leave the skin bright, clear and beautiful, causing the user to look years younger and much prettier.

Declared to cause all facial blemishes, as freckles, tan, liver spots, pimples, etc., to disappear. The preparation was found to contain about 10 per cent. each of zinc oxide and ammoniated mercury, mixed with a mineral base having a consistency midway between petrolatum and paraffin.

TREASURY DECISIONS.

Decisions in Olive Oil Cases.

T. D. 32,032 gives the decision in full of the Court of Customs Appeals in the case of Sheldon & Co. vs. the United States in relation to the tariff on olive oil imported for manufacturing purposes. Three other suits are affected. The court reverses the lower tribunal and decides that the oils were for mechanical use, and being worth not more than 60 cents a gallon, were entitled to free entry. The case of Holbrook vs. United States governs.

The decisions of the collector in the classification of olive oil in five-gallon tins was reversed by the board on the protests of C. Carmeci & Co., Italo-American Express Company, J. P. Smith & Co. and F. H. Leggett & Co. The merchandise was claimed to be dutiable at the rate of 40 cents per gallon under paragraph 38 of the tariff act of 1909.

Lime Powder Decision Sustained.

Court of Customs Appeals has affirmed the decision of the Board of General Appraisers in the lime powder mixture case of Strohmeyer & Arpe Company vs. United States (T. D. 32,035). The court holds that "a chemical compound is not simply a mingling of components, but a combination of them resulting in their destruction as distinct entities" and in the development of a new substance. The court defines "mixture" as a combination in which "the individual properties of the mixed ingredients have been preserved." The court decides that "a combination of lime, carbonate of lime and manganese oxide, for use in drying and hardening varnish, is a chemical mixture, and as such is dutiable under paragraph 3, tariff act of 1909."

No Duty on Broken Containers.

The Board of Appraisers in a decision filed this month held that demijohns arriving in this country broken and empty are not subject to duty. The Dodge & Olcott Company brought in 150 demijohns containing floral water. Of these, nine were broken and without their contents. Notwithstanding this, the Collector of Customs exacted duty on the damaged containers. The importers appealed to the board for relief. The collector justifies the assessment on the ground that the Treasury Department issued instructions in harmony with his action. Judge Somerville, however, in his decision for the tribunal, reverses the collector and holds that no duty can properly be levied on broken containers.

Powdered Talc Cases Sustained.

The claims of the J. Russell Marble Company, F. Hinderman, Philip Rahm and the National Rice Milling Company, that powdered talc is dutiable as a non-enumerated manufactured article under paragraph 480 of the tariff act of 1909, were sustained by the Board of United States General Appraisers, and the collector was directed to reliquidate the entries accordingly. Similar protests made by Knauth, Nachod & Kuhne, New York, also have been sustained, Salomon vs. United States being followed.

Cylindrical Metal Containers.

Board of General Appraisers has sustained the protests of William H. Masson *et al.*, Baltimore, and others, as to cylindrical metal containers of oil of lemon, oil of bergamot and several other commodities, the decision in the United States vs. Garramone (T. D. 31,596) governing.

Alcohol Drawback Allowed.

The Treasury Department has granted a drawback on the exportation of perfumery essences manufactured by George Lueders & Co., of New York, in part from domestic tax-paid alcohol.

PATENTS AND TRADE MARKS



NOTE TO READERS.

This department is conducted under the general supervision of a very competent patent and trade mark attorney. This report of patents, trade marks, labels and designs is compiled from the official records of the Patent Office in Washington, D. C. We include everything relating to the four co-ordinate branches of the essential oil industry, viz.: Perfumes, Soap, Flavoring Extracts and Toilet Preparations.

The trade marks shown above are described under the heading "Trade Marks Applied For," and are those for which registration has been *allowed*, but not yet *issued*. All protests for infringement, etc., should be made promptly to the Commissioner of Patents, Washington, D. C.

All inquiries relating to patents, trade marks, labels, copyrights, etc., should be addressed to
PATENT AND TRADE MARK DEPT.

PATENT AND TRADE MARK DEPT.,
Perfumer Pub. Co., 100 William St., New York.

PATENTS GRANTED.

1,008,474.—METHOD OF SATURATING FATTY ACIDS OR THEIR GLYCERIDS WITH HYDROGEN.—Edwin Cuno Kayser, Cincinnati, Ohio, assignor to The Proctor & Gamble Company, Cincinnati, Ohio, a Corporation of Ohio. Filed February 18, 1910. Serial No. 544,630.

January 10, 1916. Serial No. 551,663.

1. The process of hydrogenizing fatty acids and their esters, which consists in agitating in the presence of hydrogen a heated mixture of the fatty acid or ester and a pulverulent catalyst consisting of a light, voluminous, finely-divided, inert support impregnated with an active metal, whereby the catalyst is maintained in suspension and the

acid or ester and hydrogen are brought into intimate contact with the active surfaces of said catalyst.

2. The process of hydrogenizing fatty acids and their esters, which consists in mechanically subdividing and agitating, in the presence of an atmosphere of hydrogen, a heated mixture of the fatty acid or ester and a pulverulent catalyst consisting of a light, luminous, finely-divided, inert support impregnated with metallic nickel, whereby the catalyst is maintained in suspension and the acid or ester and hydrogen are brought into intimate contact with the active surfaces of said catalyst.

3. The process of hydrogenizing fatty acids and their esters, which consists in repeatedly projecting or propelling into an atmosphere of compressed hydrogen portions of a heated mixture of the fatty acid or ester and a pulverulent catalyst consisting of a light, voluminous, finely-divided, inert support impregnated with an active metal.

1,009,239.—HINGED CAP FOR POWDER-CANS.—John H. Goss, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed March 24, 1911. Serial No. 616,696.

necticut. Filed March 24, 1911. Serial No. 616,080.
A powder can, having a discharge neck provided with parallel circumferential beads, and a groove between them, an open ring spring sprung into said groove and having an offset portion forming a hinge pintle, and a cap provided with a knuckle engaging said offset portion to effect the hinging of the cap to the can, the offset portion of the ring spring and the knuckle made of opposite curvature so that as the cap is turned into open position sufficient friction or tension is exerted to effect the retention of the cap in such open position.

TRADE MARKS REGISTERED.

84,163.—Detergent.—California Compounding Corporation, San Jose, Cal.

Filed April 21, 1911. Serial No. 55,894. Published September 12, 1911.

84,164.—Detergent.—California Compounding Corporation, San Jose, Cal.

Filed April 21, 1911. Serial No. 55,893. Published September 12, 1911.

84,165.—Spices, Teas, and Flavoring Extracts. The Canby, Ach & Canby Company, Dayton, Ohio.

Filed February 3, 1911. Serial No. 54,297. Published September 5, 1911.

84,178.—Vanilla, Lemon, and Almond Flavoring Extracts and Essences. Gowan-Peyton-Twohy Company, Duluth, Minn.

Filed June 15, 1908. Serial No. 35,374. Published September 5, 1911.

84,319.—Hair-Tonics. Samuel A. Hutchins, Winston-Salem, N. C.

Filed March 28, 1911. Serial No. 55,368. Published September 26, 1911.

84,321.—Cleaning and Bleaching Preparation. George A. Kelly Company, Pittsburgh, Pa.

Filed July 24, 1911. Serial No. 57,791. Published September 26, 1911.

84,322.—Toilet Water.—The Koken Barbers' Supply Company, St. Louis, Mo.

Filed August 22, 1910. Serial No. 51,486. Published March 28, 1911.

84,332.—Certain Foods.—The C. S. Morey Mercantile Company, Denver, Colo.

Filed September 17, 1909. Serial No. 44,746. Published May 3, 1910.

84,335.—Hair-Tonic.—George P. P. Nicolaou, Salisbury, N. C.

Filed July 20, 1911. Serial No. 57,750. Published September 26, 1911.

84,343.—Certain Foods.—The Scudders-Gale Grocer Company, St. Louis, Mo.

Filed March 10, 1911. Serial No. 54,991. Published May 9, 1911.

84,351.—Certain Foods.—Wadhams & Company, Portland, Ore.

Filed October 9, 1909. Serial No. 45,227. Published May 31, 1910.

84,353.—Certain Foods.—White-Wilson-Drew Company, Memphis, Tenn.

Filed January 7, 1910. Serial No. 46,993. Published February 21, 1911.

84,355.—Hair-Tonic. Wood & Turner, Malone, Tex.

Filed August 9, 1910. Serial No. 51,322. Published September 26, 1911.

PRINTS REGISTERED.

2,890.—Title: "Crudol." (For a Hair-Tonic.)—American Lithographic Company, New York, N. Y. Filed October 25, 1911.

2,891.—Title: "Palmer 'Success' Treatment." (For Remedies for Skin Diseases.)—The Morgan Drug Company, Brooklyn, N. Y. Filed October 5, 1911.

2,892.—Title: "Why Not Remove Those 'Pimples?'" (For Ointment.)—The Morgan Drug Company, Brooklyn, N. Y. Filed October 6, 1911.

2,893.—Title: "To Be Rid of Blackheads." (For Soap.)—The Morgan Drug Company, Brooklyn, N. Y. Filed October 6, 1911.

2,894.—Title: "This Refined Sanative Soap." (For Soap.)—The Morgan Drug Company, Brooklyn, N. Y. Filed October 6, 1911.

2,896.—Title: "Palmer's 'Salt-Water' Soap." (For Salt-Water Soap.)—The Morgan Drug Company, Brooklyn, N. Y. Filed October 6, 1911.

LABELS REGISTERED.

16,022.—Title: "Morning Glory Soap Does It." (For Soap.)—J. F. Bradley Company, San Francisco, Cal. Filed September 8, 1911.

16,043.—Title: "Demarr Hair Tonic." (For Hair-Tonic.)—Mayme M. Layton, Minneapolis, Minn. Filed July 19, 1910.

16,046.—Title: "Cleazene." (For Scouring and Cleaning Powder.)—M. S. Rourke Manufacturing Company, New York, N. Y. Filed October 28, 1911.

TRADE MARKS APPLIED FOR.

39,458.—The Luxo Company, Wichita, Kan. (Filed December 21, 1908. No claim being made to the words "Hair Vigor." Claims use since August 15, 1908.)—Hair Invigorator.

42,409.—Pearl A. Sours, Kansas City, Mo. (Filed May 14, 1909. Claims use since December 1, 1908.)—Complexion Powder, Cold-Cream, Toilet Cream, Skin Rouge and Skin Bleach.

46,951.—Hydrox Chemical Company, New York, N. Y. (Filed January 7, 1910. Claims use since about July 10, 1905.)—Peroxide of Hydrogen.

51,026.—Stanley Clague, Chicago, Ill. (assignor to Yours Truly Company, Chicago, Ill., a Corporation of Illinois). (Filed July 23, 1910. Claims use since June 14, 1910.)—Olive-Oil, Cotton-Seed Oil, Cotton-Seed Salad Oil, Flavoring Extracts, etc.

52,529.—Louis Féret, Paris, France. (Filed October 31, 1910. Claims use since May 6, 1908.)—An Emollient Preparation for Application to the Skin after Shaving.

53,392.—Norddeutsche Wollkämmerei & Kammgarnspinnerei, Bremen and Delmenhorst, Germany. (Filed December 21, 1910. Claims use since January, 1894.)—Toilet Soap.

53,394.—Norddeutsche Wollkämmerei & Kammgarnspinnerei, Bremen and Delmenhorst, Germany. (Filed December 21, 1910. Claims use since October, 1910.)—Toilet Soap.

54,170.—Lambert Pharmacal Company, St. Louis, Mo. (Filed January 30, 1911. Under ten-year proviso. Claims use since May 1, 1881.)—An Antiseptic for Medicinal Use, Personal Hygiene and Toilet Uses.

54,342.—Harry A. Skinner, New York, N. Y. (Filed February 6, 1911. Claims use since December 1, 1910. The picture presented being the portrait of Mrs. Maude C. Knoebel.)—Hair-Coloring, Depilatory, Toilet-Creams, Talcum Powder, Perfumes, Rouge, Sachet-Powder, Smelling-Salts and Finger Nail Tints, Powders and Enamel.

55,201.—Cameo Manufacturing Company, Worcester, Mass. (Filed March 20, 1911. Claims use since May 7, 1909.)—Almond Cream, Complexion Cream, Deodorizing Creams and Foot Powder.

55,932.—Pacific Drug Company, Seattle, Wash. (Filed April 24, 1911. Claims used since January 30, 1905.)—Antiseptic Liquid, Tooth-Powder, Tooth-Paste, Peroxide Cream, Theatrical Cream, Foot-Powder, Benzoin-Almond Cream, Witch Hazel Cream, Talcum Powder and Camphor Ice.

56,268.—A. A. Vantine & Co., New York, N. Y. (Filed May 9, 1911. Under ten-year proviso. Claims use since June 21, 1893.)—Talcum Powders.

56,702.—Chase & Neely, Bradford, Pa. (Filed May 31, 1911. The words "Gravy-Brown" not being claimed. Claims use since May 1, 1909.)—Coloring for Food.

57,023.—Cadorette Bros. & Co., Lawrence, Mass. (Filed June 14, 1911. Claims use since May 1, 1911.)—Javelle Water, a Solution for Bleaching and Disinfecting Purposes.

57,075.—The Pompeian Company, Inc., Washington, D. C. (Filed June 15, 1911. Claims use since May 18, 1911.)—Olive-Oil.

57,621.—Godfrey Edwards, Liverpool, England. (Filed July 14, 1911. Claims use since about July 13, 1910.)—Toilet Preparations to Prevent Chafing and Chapping.

57,693.—Richard Hudnut, New York, N. Y. (Filed July 18, 1911. Claims use since August 11, 1910.)—Soap.

57,837.—The Arthur Chemical Company, New Haven, Conn. (Filed July 26, 1911. Claims use since July 15, 1911.)—Hydrogen Peroxide.

58,099.—Vero-Form Hygienic Company, Newark, N. J. (Filed August 9, 1911. Claims use since December 1, 1906.)—Toilet Soap in Liquid and Cake Form.

(Continued on page 248)

FOREIGN CORRESPONDENCE AND MARKET REPORT

AFRICA.

OLIVE OIL.—A good deal of genuine olive oil is produced in parts of Northern Africa, the general characters of which are in agreement with those of olive oil produced in other countries. Occasionally, however, this oil gives a reaction which is not yielded by other olive oils, and which might, if not understood, lead to confusion. With Badouin's reagent (furfural and hydrochloric acid) a red color is developed, which might give rise to the suspicion that sesame oil was present, but it rapidly alters, and becomes almost black, so that in experienced hands no mistake is likely to occur.

BELGIUM.

DUTY ON SOAPS.—A Belgian royal decree has been issued providing that on and after June 1, 1912, the existing duty of 12 per cent. *ad valorem* on perfumed or toilet soaps shall be superseded by the following specific duties: Common soaps, 7f. per 100 kilos.; soap creams, hard soaps for shaving, liquid soaps and soaps in powder (in boxes, tubes, cases, flasks, small pots, etc.), not exceeding 250 grams, 60f. per 100 kilos.; ditto, exceeding 250 grams, 30f. per 100 kilos.; medicinal soaps, 40f. per 100 kilos.; soap in balls, bars or cakes, imported in boxes of three pieces, wrapped soaps, soap in leaves, 40f. per 100 kilos.; soaps not specially mentioned, 18f. These products are dutiable without deduction of tare for the receptacles or packing, such as boxes, cartons, etc., but the weight of the rough wooden cases is not to be included in the dutiable weight.

CHINA.

SOYA BEANS.—The British Consul at Chinkiang reports that the soya bean crop in the Huai'an and Hsüchou Prefectures, north of the Yangtse, is expected to be excellent. This is the case in spite of the occurrence of extensive floods in the former Prefecture, which means that the bulk of the produce will come from the Hsüchou Prefecture, where the bean has supplanted the poppy.

GERMANY.

PERFUME TRADE.—According to the last report of the Cologne Chamber of Commerce the sale of Eau de Cologne was very brisk in 1910, despite the increased purchases for a long way ahead occasioned by the introduction of an increase in the duty on brandy; in fact, in the autumn the demand increased to such an extent that it was only possible to fill all orders by working overtime. The sale of other perfumes and toilet soaps also was very good, although the prices of the cheaper qualities had to be advanced owing to the increased cost of raw materials. A number of German toilet soap factories maintained their former prices, but, of course, this was only possible at the expense of quality. However, it was soon clearly demonstrated that buyers think a lot of quality, and preferred to pay more for really good soap rather than save a few pence and get inferior lines.

GERMAN COLONIES.

PEPPERMINT OIL.—Thoms has followed up his previous communication on the possibility of cultivating the Japanese peppermint in Germany, by publishing the results of experiments carried out at Okahandja, in German South-West Africa. From the air-dried plants grown there from seedlings obtained from Japan, he obtained 0.976 per cent. of essential oil. The characters of normal Japanese oil, German distilled oil, and the oil distilled in South-West Africa, are as follows:

	Japanese.	German.	African.	South-West
Specific gravity	0.9043	0.9032	0.8954	
Solidifying fat	—	20°	14° 5'	
Rotation	—36° 25'	—35°	—34° 75'	
Acid value	4.05	2.99	4.01	
Ester value	27.73	4.68	12.74	
Acetyl-ester value	289.5	304.8	283.25	
Total menthol	80.51%	84.83%	788.2%	
Combined menthol	7.74%	1.3%	3.55%	
Free menthol	72.77%	83.53%	75.27%	

GREECE.

OLIVE OIL.—Consul General William H. Gale, of Athens, reports that the gathering of the olive crop has begun, and it is said to be the best produced in Greece for forty years as to both quantity and quality. It is estimated that the yield of oil will be from 75,000,000 to 90,000,000 okes (oke equals 0.3513 gallon).

JAPAN.

KOBE.—Consul George N. West reports that in 1910 Kobe imported from the United States \$10,187 in essential oils and \$74,431 in rosin. The exportation of brushes amounted to \$827,485.

MEXICO.

SOAP BY-PRODUCT.—Consul William E. Alger writes that the soap works at Mazatlan, Mexico, are installing English machinery for a glycerin plant, capacity 2,600 tons of spent soap lye per year. It will start producing in January, 1912, commercial glycerin (80 per cent. crude glycerin) and will use sulphuric acid. An offer has already been received from a California powder company to purchase entire glycerin output.

SALVADOR.

SOAP TARIFF.—Materials used in the manufacture of soaps and candles, exempted by decree of April 19, 1911, are not subject to the new 20 per cent. increase in duty which became effective November 18, 1911.

SWEDEN.

SOAPS AND ESSENCES.—In his report on Sweden's chemical industries Consul T. H. Norton, of Chemnitz, Germany, says:

"The soap industry is highly developed. There are 42 factories producing annually 13,000 tons of soft soap and 3,700 tons of hard soap. Excellent toilet soap is manufactured in a few establishments. Imports of soap are relatively small. In some factories the production of scents is also extensive, the annual output being valued at \$200,000. This is about six times the value of the imports of scents.

"There are Swedish concerns engaged in the manufacture of lactic acid, lanolin, fruit essences, cosmetics, and pharmaceutical preparations, and some of the last named are of international repute. Liquid carbonic acid is made in three factories, the total annual output being 415 tons."

Importations for 1909 include the following, the figures being in metric tons: Cosmetics, 11; perfumes, 8; toilet soap, 46; ordinary soap, 260; lanolin, 6; caustic potash, 25; caustic soda, solid, 1,111. Among the exports from Sweden in 1909 was an item of 59 tons of soap, sent to Germany, Norway and Brazil.

PRICES IN THE NEW YORK MARKET

(It should be borne in mind by purchasers that the market quotations in this journal are quantity prices.
For very small orders the prices would be slightly higher.)

Almond, Bitter	per lb.	\$3.50	Lemon	1.50-1.75	BEANS.
" F. F. P. A.		4.50	Lemongrass	1.75-2.00	Tonka Beans, Angostura.... 5.50
" Artificial		.75	Limes, expressed	2.00	" " Para..... 3.00
" Sweet True		63.73	" distilled	.50	Vanilla Beans, Mexican.... 4.00-6.00
" Peach-Kernel		.30-.35	Linaloe	2.75	" " Cut..... 4.00
Amber, Crude		.15	Mace, distilled	.75	" " Bourbon..... 4.00-5.00
" Rectified		.25	Mustard Seed, gen.	8.50	" " Tahiti..... 1.75-2.00
Anise		1.45	" artificial	2.00	SUNDRIES.
Aspic (Spike)		1.10-1.25	Myrbane, rect.	.12	Ambergris, black (oz.) 15.00-20.00
Bay, Porto Rico		3.50	Neroli, petale	50.00-65.00	gray " 25.00-27.50
Bay		2.75-2.90	" artificial	15.00-17.00	Civet, horns " 1.50-1.75
Bergamot, 35%-36%		5.50-5.75	Nutmeg	.80	Chalk, precipitated " .04-.06
Birch (Sweet)		1.75	Opopanax	7.00	Cologne Spirit (gal.) 2.65-3.10
Bois de Rose, Femelle		3.75-4.00	Orange, bitter	2.85	Cumarin..... 3.50
Cade		.20	" sweet	2.65	Heliotropine..... 1.75
Cajeput		.60	Origanum	2.40-2.50	Menthol..... 7.00
Camphor		.12	Orris Root, concrete (oz.)	3.50-5.00	Musk, Cab., pods (oz.) 10.00
Caraway Seed		1.00	" absolute (oz.)	28.50-32.00	" grain " 15.00
Cardamom		17.00	Patchouly	3.25-3.60	" Tonquin, pods " 13.00-16.00
Carvol		2.00	Pennyroyal	1.50-1.70	" grains " 21.00-24.00
Cassia, 75-80%, Technical		.95	Peppermint	3.30-3.60	" Artificial, per lb.... 1.50-3.00
" Lead free		1.10-1.35	Petit Grain, South American	2.75-3.00	Orris Root, Florentine, whole .12
" Redistilled		1.50	" French	6.50	Orris Root, powdered and
Cedar, Leaf		.60-.70	Pimento	2.25	granulated..... 1.5
" Wood		.18	Rose	(oz.) 8.00-12.00	Talc, Italian (ton) 32.00-35.00
Cinnamon, Ceylon		6.50-14.00	Rosemary, French	.80	" French " 25.00-30.00
Citronella		26-28	" Trieste	.70	" Domestic " 15.00-25.00
Cloves		1.00-1.10	Rue	4.00	Terpineol..... 35-.45
Copaioba		1.15-1.25	Safrol	.45	Thymol..... 1.40
Coriander		5.00-9.00	Sandalwood, East India	3.00	Vanillin (oz.) .33-.36
Croton		1.40-1.50	" West India	1.60	SOAP MATERIALS.
Cubeps		4.00	Sassafras, artificial	.35	Tallow, city 6½c. (hhd.); country,
Erigeron		2.00	" natural	.75	6½c.
Eucalyptus, Australian, 70%		.50	Savin	1.40	Grease, brown, 5@5½c.; yellow,
Fennel, Sweet		1.50-1.60	Spearmint	4.50-4.75	5½@6¼c.
" Bitter		.75	Spruce	.50	Cottonseed oil, crude, tanks, 30%@
Geranium, African		5.50-5.75	Tansy	2.25	3½c.; winter yellow, \$5.50@6.20.
" Bourbon		4.50-4.75	Thyme, red	1.10	Cocoanut oil, Cochin, 9½@10c.;
" French		11.00	" white	1.30	Ceylon, 84@9¾c.
" Turkish		3.75-4.00	Vetivert, Bourbon	6.00-7.00	Olive oil, in bond, 80@85c.
Ginger		6.50	" Indian	30.00-40.00	Olive oil, foot, prime, 7½@7¾c.
Gingergass		1.75-2.00	Wintergreen, artificial	34-36	Palm oil, Lagos, 7¼@8c.; red,
Hemlock		.55	" genuine	4.50-5.00	prime, 6½@7½c.
Juniper Berries, twice rect.		1.25	Wormwood	7.00	Peanut, 7@8c.
Kananga, Java		3.00	Ylang-Ylang	36.00-40.00	Soya Bean oil, 6½@7c.
Lavender, English		12.00			Chemicals, borax, 3½@4c.; caustic
" Cultivated		6.00			soda, 80 p. c. basis of 60 p. c., \$1.85.
" Fleurs, 28-30		3.50-3.75			Rosin, water white, \$8@8.20.

DOMESTIC MARKET.

During the month lemon oil has advanced to \$1.50 and \$1.75, but it is expected that new crop oil will go no higher than at present, viz.: \$1.30. Oil of bergamot also has gone a trifle higher, the late quotations range from \$5.50 to \$5.75. Bois de rose, femelle, has declined slightly. The recent flurry in oil of orange has left prices at practically where they were a month ago. African, Bourbon and Turkish geranium are quoted higher this month than last. The same is true of South American petit grain. Lavender flowers also have gone higher in the market.

Menthol is now quoted at \$7, while musk has joined the upward tendency on account of the war in China. Tonquin in grains is now held at prices ranging from \$21 to \$24.

Beans.

The only change in price recorded this month is the advance of Tahiti vanillas to \$1.75 and \$2. The stocks are greatly reduced in New York and the market consequently is firm. This also applies to Bourbons. It is reported that the Mexican growers have sold all of the new cuts and that the supply is concentrated in a few hands. The quality is said to be better than the previous crop.

Soap Materials.

In the soap material markets conditions have been dull and prices are sagging, with lower quotations reported on several commodities.

TRADE MARKS APPLIED FOR.

(Continued from page 245.)

58,512.—Aubry Sisters, New York, N. Y. (Filed September 2, 1911. Consists of the words "Aubry Sisters" in the facsimile signature of the president of the corporation, Matilda R. Aubry Schwahn. Claims use since May 16, 1904.)—Massage Cream, Rouge, Depilatory Powder, Tooth-Powder, Talcum Powder, Cold-Cream, Greaseless Cream, Hair Tonic.

58,522.—The Wilson Chemical Company, Tyrone, Pa. (Filed September 2, 1911. Claims use since August 28, 1911.)—Talcum Powder.

58,586.—Aubry Sisters, New York, N. Y. (Filed September 8, 1911. The picture shown is a portrait of Matilda R. Aubry Schwahn. Claims use since May 16, 1904.)—Tooth-Powder, Talcum Powder, Cold-Cream, Greaseless Cream and Hair-Tonic.

58,635.—The Andrew Jergens Company, New York, N. Y., and Cincinnati, Ohio. (Filed September 12, 1911. Under ten-year proviso. Claims use since 1890.)—Toilet Soap.

58,636.—The Andrew Jergens Company, New York, N. Y., and Cincinnati, Ohio. (Filed September 12, 1911. Under ten-year proviso. Claims use since 1893.)—Perfumes, Toilet-Water, Cold-Cream, Face Lotions, Talcum Powder, Sachet Powder, Face Powder and Shampoo Preparations.

58,637.—The Andrew Jergens Company, New York, N. Y., and Cincinnati, Ohio. Filed September 12, 1911. Claims use since 1883.)—Perfumes and Toilet Water.

58,639.—The Andrew Jergens Company, New York, N. Y., and Cincinnati, Ohio. Filed September 12, 1911. Claims use since 1903.)—Toilet Water, Face Powder and Perfumes.

58,689.—Laura E. Warren, Cleveland, Ohio. (Filed September 15, 1911. The portrait being that of myself. Claims use since August 1, 1911.)—Hair Grower.

58,838.—Julia Fleischman, New York, N. Y. (Filed September 25, 1911. Claims use since August 28, 1911. The portrait being a fanciful one.)—Face Cream.

59,109.—M. G. Parejo, Seville, Spain. (Filed October 11, 1911. Claims use since June, 1904.)—Olive-Oil.

59,111.—The Arthur Chemical Company, New Haven, Conn. (Filed October 11, 1911. Claims use since 1905.)—Toilet Powder.

DETECTING PEANUT OIL IN OLIVE OIL.

Saponify 10 cc. oil with 125 cc. O. 5 N alcohol NaOH, let stand at ordinary temperature 4-5 hours. Turbidity shows the process of more than 10 per cent. peanut oil or more than 20 per cent. sesame or cottonseed oils. In case of precipitate heat on H₂O bath until clear, otherwise neutralize direct with concentrate HCl, place in H₂O at 15 degs. for 10 min., filter through 12 cm. paper; a small quantity of white precipitate on paper denotes the presence of either less than 20 per cent. of peanut oil or less than 50 per cent. sesame or cottonseed oil. If the filter is almost filled with a white granular precipitate then some of the oils are present in above quantity. Place a portion of the filtrate in H₂O at 10 degs. No precipitate after 30 min. denotes the absence of peanut oil and of more than 10 per cent. of sesame and cottonseed oil. If precipitate forms, place the remainder of the filtrate in ice box over night, dissolve precipitate in 90 per cent. alcohol, heat on H₂O bath a few minutes and let stand at room temperature for 1 hour. If a flocculent precipitate forms and the Baudouin reaction was negative, peanut oil is present (sensitive to 5 per cent.). Arachic acid may be separated as follows: Saponify 20 gallons oil with 250 cc. O. 5 N KOH, neutralize while still hot with HCl (phenolphthalein), warm again on H₂O bath, filter off KCl and place in ice chest over night. Filter off K arachate, dissolve in 90 per cent. alcohol, place in ice chest for several hours, siphon off the liquor, treat precipitate with 20-30 drops, concentrate HCl. Warm slightly, shake out precipitated arachic acid with H₂O, dry and weigh. The melting point may be determined after recrystallizing.

P. BOHRISCH.

MAY-A-TONE, A FACE WASH, ANALYZED.

Commissioner Ladd, of North Dakota, prints the following about a dressing for the treatment for the skin, manufactured by the May-a-tone Co., of Detroit, Mich., and Windsor, Ont.:

What is May-a-tone, a face dressing for the treatment of the skin? The small package, containing 2.3 ozs. retails for 75 cents. The directions for making and using May-a-tone face dressing are:

"Empty the entire contents of an original package of May-a-tone into 8 ozs. of witch-hazel. The powder will dissolve readily by shaking the bottle for a few minutes. Wrap a piece of blotting paper in the shape of a funnel and filter the solution. This will make the liquid clear and bright.

"May-a-tone Face Dressing may be used as frequently as desired. Apply with hands and massage thoroughly into the skin until dry. Do not dry the face with a towel or cloth, but simply massage until dry."

Commissioner Ladd says that his analysis of this product shows as follows:

Magnesium sulphate, MgSO ₄	45.9%
Borax, Na ₂ B ₄ O ₇	4.0%
Water	49.9%
Undetermined2%

"The product is colored with cud-bear and slightly perfumed," says Commissioner Ladd. "Analysis shows this preparation to consist of Epsom salts and borax, together with cud-bear color and a little perfume, and the 2.3 ozs. are sold at 75 cents. The product is to be added to witch-hazel, and if there is any virtue to this preparation, in my judgment, it will be found in the witch-hazel and not in any of the ingredients which are contained in this product."

SAPONIFICATION OF CARNAUBA WAX.

CARNAUBA WAX; SAPONIFICATION OF —. R. Berg.

The author points out that, in determining the saponification value of carnauba and other waxes which are markedly resistant to saponification, all the methods which have been suggested to accelerate and complete the saponification introduce errors into the test. In employing sodium alcoholate (Kossel and Obermüller) the products of saponification are not attacked, but saponification is not complete. Complete saponification is arrived at by using an alcohol of high boiling point as the solvent, as suggested by Einhorn and later used on carnauba wax by Radcliffe. The method is open to the serious objection, however, that during the six hours' heating which is necessary, the alkali acts upon the alcohol in a manner which is so irregular as not to be controllable by a blank experiment. Following the lines of the method suggested by Marcusson for saponifying montan wax, in which benzene is used as the solvent, the author works as follows, replacing the benzene by xylene. To 4 grms. of wax dissolved in 20 c.c. of xylene, 50 c.c. of N/2, alcoholic potash are added, the acid value being determined in the usual way during the addition of the alkali. The flask is fitted with a reflux condenser and heated for two hours on a vigorously boiling water-bath, which results in complete saponification being effected. The soap which is produced separates in part, and to dissolve this, 100 c.c. or more of alcohol are added until a clear solution is obtained, when titration is proceeded with in the usual way. In the exceptional case of saponification not being complete after heating on the water-bath, a few minutes' boiling on a wire gauze over a flame, with or without the further addition of xylene, as may be considered necessary, is sufficient to complete the reaction.



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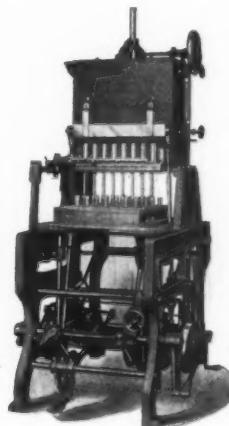
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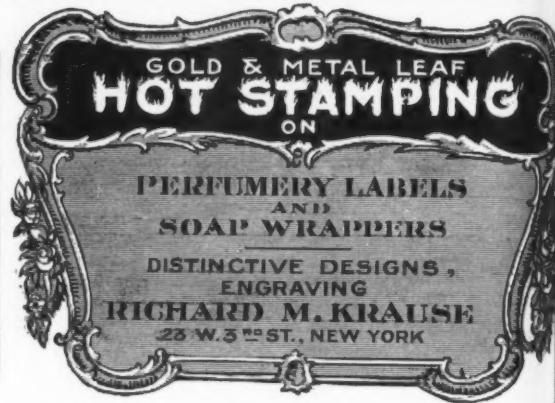
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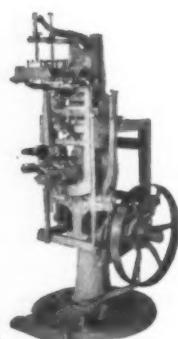
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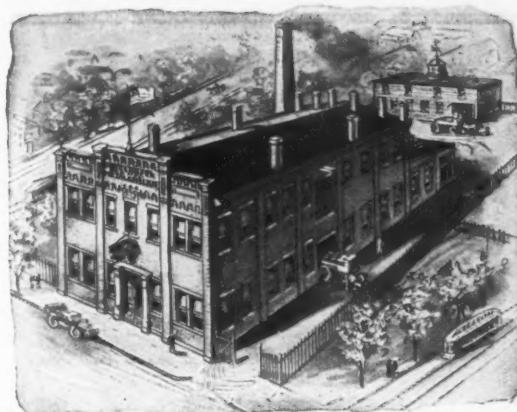
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